

F I N A L

Supplemental Environmental Impact Statement for the International Boundary and Water Commission South Bay International Wastewater Treatment Plant Long Term Treatment Options

**International Boundary and Water Commission
United States Section**



**and
U.S. Environmental Protection Agency**



Prepared by



March 1999

Final

Supplemental Environmental Impact Statement
Long Term Treatment Options
at the
South Bay International
Wastewater Treatment Plant

U.S. International Boundary and Water Commission
and
U.S. Environmental Protection Agency

Prepared by



March 11, 1999

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for the
International Boundary and Water Commission
South Bay International Wastewater Treatment Plant
Long Term Treatment Options
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Based on the 1994 Final Environmental Impact Statement and Record of Decision, the federal lead agencies, the USIBWC and the EPA, decided to construct a secondary activated sludge wastewater treatment facility and ocean outfall. The South Bay International Wastewater Treatment Plant (SBIWTP) became operational in 1997 as an advanced primary plant. The South Bay Ocean Outfall Construction was completed in January 1999 and the outfall is operational.

The purpose of the project is to provide new wastewater management facilities to safeguard the public health, environment, public beaches, water quality, and economy of San Diego, California. In conjunction with actions taken by Mexico, this project would minimize dry-weather flow of untreated sewage into the United States from the Tijuana Municipality, Baja California, Mexico.

The purpose of this Supplemental Environmental Impact Statement for Long Term Treatment Options is to re-evaluate treatment options for the SBIWTP by assessing potential environmental consequences associated with the construction and implementation of these options. The Draft SEIS was released in January 1998. A public hearing was conducted in March 1998. The following treatment alternatives were evaluated in the DSEIS: (1) Activated Sludge/No Action, (2) Activated Sludge with Flow Equalization Basin, (3) Activated Sludge with Expanded Capacity, (4) Completely Mixed Aerated (CMA) System at Hofer Site, (5) Advanced Integrated Pond System at Spooner's Mesa Site, (6) Advanced Primary Only, and (7) Partial Secondary Treatment. The lead agencies selected the CMA Pond System as the Preferred Alternative.

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Chapter 1.0 Introduction

The *Final Supplemental Environmental Impact Statement for the International Boundary and Water Commission South Bay International Wastewater Treatment Plant Long Term Treatment Options* (FSEIS) addresses the potential environmental effects that could result from implementing long-term treatment options at the South Bay International Wastewater Treatment Plant (SBIWTP). The FSEIS has been prepared in accordance with the National Environmental Policy Act (NEPA). The U.S. International Boundary and Water Commission (USIBWC) and the U.S. Environmental Protection Agency (EPA) are the lead agencies for the NEPA process. These agencies have independently evaluated, directed, and supervised the preparation of this document. In the interim since the Draft Long Term Supplemental Environmental Impact Statement (SEIS) was released, a Supplement to the 1996 Interim Operation SEIS was prepared (USIBWC and EPA 1998). This supplement, which concerned acute toxicity and dioxin in the advanced primary effluent, is incorporated by reference into this document.

1.1 Format of the Final Supplemental Environmental Impact Statement

This FSEIS has been prepared using the abbreviated format that complies with the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR 1503.4 c). This FSEIS is presented in a single volume that contains the following chapters and Appendices:

- Chapter 1: Introduction (including a description of the Proposed Action, the seven alternatives evaluated in the Draft SEIS [DSEIS], and identification of the NEPA Preferred Alternative)
- Chapter 2: Consultation and Coordination (including a summary of the public outreach efforts and a description of consultation and coordination efforts)
- Chapter 3: Modifications/Updates to the DSEIS (a discussion of changes made to the DSEIS)
- Chapter 4: Responses to Comments (a description of major comment areas and responses to those comments)
- Appendix H: Agency and Other Communication
- Appendix I: Summary of Focus Group Workshops
- Appendix J: Coastal Consistency Determination
- Appendix K: Executive Summary of the Toxicity Characterization Study of Effluent Discharged from the SBIWTP TIE
- Appendix L: SBIWTP Dioxin Analysis

- Appendix M: Final Phase II Sludge Disposal Site Study (prepared by Mexico)
- Appendix N: Correspondence and Supporting Documentation for Bajagua Proposal

Numerous references are made throughout the FSEIS to the DSEIS. The DSEIS was previously circulated and is not reproduced in full in this FSEIS. Copies, however, are available for inspection at the locations identified in Section 2.2. The DSEIS and supporting Appendices, together with this FSEIS, comprise the full NEPA documentation for the project.

1.2 Description of Proposed Alternatives

The DSEIS considered seven alternatives, which are discussed in Section 1.5 of the DSEIS. All seven alternatives, including the No Action Alternative, incorporate some form of primary treatment of wastewater from Tijuana. In addition, for all alternatives, flows of treated effluent from the SBIWTP would not be discharged to the Tijuana River under normal conditions; rather, the discharge will be sent to the South Bay Ocean Outfall (SBOO). A summary of each alternative is included below.

1.2.1 Activated Sludge/No Action

For the Activated Sludge/No Action Alternative (No Action Alternative), the SBIWTP would have the same activated sludge secondary treatment as described in the 1994 Final EIS. The basis for this alternative is that sewage flow to the SBIWTP would be at a constant flow rate of 25 million gallons per day (mgd) (1,095 liters per second [L/s]). Pump Station One in Tijuana would be operated to direct all fluctuations in daily sewage flow (i.e., flows above 25 mgd) to treatment elsewhere in Mexico while a constant wastewater flow of 25 mgd (1,095 L/s) would be directed to the SBIWTP. The average and peak flows through both primary and secondary treatment would be 25 mgd (1,095 L/s).

The proposed new facilities would include the following major elements:

- Six single-pass conventional activated sludge tanks with fine-bubble diffusers and anoxic zone “selectors,” including one aeration blower structure with three blowers
- Eight secondary sedimentation tanks (i.e., clarifiers) with return-activated sludge pump facilities, secondary skimming pump station, and electrical local control center
- Two 27-foot-diameter dissolved air flotation thickeners with chemical addition facilities
- One 34-foot-diameter sludge storage tank
- Extension of the support facilities, such as yard piping, to accommodate the expanded site and facilities associated with the secondary treatment facilities.

For a full description of the facilities associated with the No Action Alternative, see the 1994 Final EIS.

1.2.2 SBIWTP with Activated Sludge Secondary Treatment

This alternative comprises activated sludge secondary treatment at the SBIWTP to accommodate an average flow of 25 mgd (1,095 L/s) with two options for treating diurnal peak flows. The first option involves the construction of a flow equalization basin to accommodate a peak flow of up to 50 mgd (2,190 L/s). The second option under this alternative involves an increase in the capacity of the secondary facility at the SBIWTP to treat peak flows up to 50 mgd (2,190 L/s). To accomplish this, the number of secondary clarifiers will be doubled from 8 to 16.

1.2.2.1 Activated Sludge with Flow Equalization Basin

This alternative would result in an average flow of 25 mgd (1,095 L/s) into the SBIWTP with a flow equalization basin (FEB) to accommodate peak-flow storage of advanced primary effluent and subsequent off-peak discharge to the secondary activated sludge facility. The 7-million-gallon (MG) FEB will be capable of storing peak flows greater than 25 mgd (1,095 L/s) and would be constructed for this alternative. The average flow through both the advanced primary and secondary portion of the plant is 25 mgd (1,095 L/s). Flow through the primary portion of the plant would follow the daily flow variations with a low flow of about 3.5 mgd (153 L/s) and a peak flow of up to 50 mgd (2,190 L/s). Before this variable flow enters the secondary portion, it is equalized by the basins to a steady rate of 25 mgd (1,095 L/s).

The FEB would be located within the existing footprint of the SBIWTP, and the proposed new facilities would be the same as the No Action Alternative with the following additions or changes:

- The addition of one 7.0-MG equalization basin, along with a pump station capable of pumping up to 21.5 mgd (942 L/s) to the activated sludge process
- Two 27-foot-diameter (823-centimeter [cm]) sludge storage tanks, instead of the one 34-foot-diameter sludge storage tank specified for the No Action Alternative

1.2.2.2 Activated Sludge with Expanded Capacity

For this alternative, the secondary facility would be sized to treat peak flows up to 50 mgd (2,190 L/s). To do so, the number of secondary clarifiers would be doubled from 8 to 16 to accommodate the peaks. Thus, an average flow of 25 mgd (1,095 L/s) with peak flows up to 50 mgd (2,190 L/s) would be treated by both the advanced primary and the secondary facilities.

The proposed new facilities would be located on current SBIWTP and Hofer sites. The total acreage of the Hofer site is 40 acres. Of this total, approximately 28 acres would be occupied by the proposed ponds. The facilities for this alternative would be the same as the No Action Alternative with the following additions or changes:

- Six single-pass conventional activated sludge tanks with fine-bubble diffusers and anoxic zone “selectors,” including one aeration blower structure with four blowers, rather than the three specified for the No Action Alternative

- Sixteen secondary sedimentation tanks with return-activated sludge pump facilities, secondary skimming pump station, and electrical local control center

1.2.3 SBIWTP with Ponds—Secondary or Secondary-Equivalent Treatment

This alternative evaluates two treatment pond options capable of treating 25-mgd (1,095 L/s) average flow and peaks of 50 mgd (2,190 L/s). In this alternative, conventional primary treatment, as opposed to advanced primary treatment, would be provided at the SBIWTP to fully optimize the pond system. The primary effluent would be the influent to the pond systems. The wastewater would be treated in the pond system to a secondary or secondary-equivalent level.

1.2.3.1 Completely Mixed Aerated System at the Hofer Site (CMA Ponds at the Hofer Site)

The Hofer site comprises the Hofer parcel adjacent to the SBIWTP and a USIBWC-owned parcel north of the Hofer parcel. This alternative would use a completely mixed aerated (CMA) process preceded by specialized cells called anaerobic digester pits (ADPs) to provide secondary treatment. This design incorporates recommended modifications to this alternative per the *Phase II Ponds Study* (CH2M HILL, 1997). The proposed new facilities would require the following major elements:

- Four ponds with a total volume of 147 million gallons, each divided into five cells: four ADPs receiving primary effluent, followed by one CMA cell receiving effluent from all the ADPs. The ADPs will have surface aerators, and the CMA cells will be completely mixed and aerated.
- Two surface aerated ponds (26 MG each) divided into two cells, each pond receiving effluent from the CMA cells.
- Distribution structures.
- Pump stations.
- Control building.

This alternative would cover a total area of approximately 36 acres (14.6 hectares [ha]) with a total pond surface area of approximately 29 acres (11.7 ha).

1.2.3.2 Advanced Integrated Pond System at Spooner's Mesa Site (AIPS at Spooner's Mesa)

The proposed new facilities for the advanced integrated pond system (AIPS) at Spooner's Mesa Alternative would require the following major elements:

- Six partially mechanically aerated ponds (200 MG total) with submerged anaerobic digester pits
- Six partially mechanically aerated ponds (100 MG total) with submerged anaerobic digester pits
- Three settling ponds (74 MG total)
- Distribution structures

- Pump station (one at the SBIWTP to pump the wastewater to Spooner's Mesa)
- Control building

This alternative would cover a total area of approximately 102 acres (41.3 ha), with a total pond surface area of approximately 78 acres (31.6 ha). This alternative will require new road construction and grading for construction and operational access to the Spooner's Mesa site. A new paved road would be constructed from the ponds to the SBOO at an eastern access point.

1.2.4 SBIWTP with Less than Full Secondary Effluent

This alternative involves two options for operating the SBIWTP with varying levels of treatment of wastewater coming from Tijuana. The first option involves the use of primary treatment only. The second option includes the use of activated sludge secondary treatment for average flows and advanced primary treatment for peak flows. Both options under this alternative would treat average flows of 25 mgd (1,095 L/s) and peak flows up to 50 mgd (2,190 L/s).

1.2.4.1 Advanced Primary Only

Under this alternative, the SBIWTP would operate using advanced primary treatment for average flows of 25 mgd (1,095 L/s) and peak flows up to 50 mgd (2,190 L/s). No secondary treatment and no equalization of flow would be provided, and no new treatment facilities would be constructed at the SBIWTP. This alternative represents the last phase of interim operating conditions of the SBIWTP as discussed in the 1996 Interim Operation SEIS (RECON, 1996). Pump Station One would be operated in a way that results in a daily peak flow of up to 50 mgd (2,190 L/s); and, combined with low flows, the average flow to the SBIWTP would equal 25 mgd (1,095 L/s).

1.2.4.2 Partial Secondary Treatment

This alternative involves the use of the SBIWTP with a 25-mgd (1,095-L/s) maximum flow for partial activated sludge secondary treatment; peaks over 25 mgd (1,095 L/s), up to 50 mgd (2,190 L/s), would receive advanced primary treatment only. For this alternative, Pump Station One is assumed to be operated in a way that produces low flows and a daily peak flow of 50 mgd (2,190 L/s), such that the average flow to the SBIWTP equals 25 mgd (1,095 L/s). Accordingly, the average flow to the advanced primary portion of the plant is 25 mgd and the average flow through the secondary process is only 18 mgd because the secondary treatment facilities cannot handle flows greater than 25 mgd at any given instant. Flows greater than 25 mgd (1,095 L/s) (up to 50 mgd [2,190 L/s]) would receive advanced primary treatment but would be bypassed around the secondary process to the SBOO. The proposed new facilities are the same as for the No Action Alternative.

1.3 Preferred Alternative

In accordance with CEQ regulations, the lead agencies, EPA and USIBWC, did not identify a preferred alternative in the DSEIS, and indicated that a preferred alternative would be identified after public comments on the DSEIS were available. After consideration of all comments received for the DSEIS, including those received by cooperating agencies,

nongovernmental organizations, and individuals (including input from the Focus Group), EPA and USIBWC have chosen the Completely Mixed Aerated System at Hofer Site (CMA Ponds at the Hofer Site) as the Preferred Alternative. The CMA Ponds system will require an endorsement from IBWC Mexican Section (MxIBWC). The rationale for the lead agencies' decision is summarized below:

- **Environmentally Preferred**—Secondary treatment is the environmentally preferred alternative. The CMA Ponds at the Hofer Site is a secondary treatment alternative that is designed to meet all secondary treatment standards and all California Ocean Plan requirements. Furthermore, the CMA Ponds are expected to have no significant impacts on marine and terrestrial biology, cultural and paleontological resources, land use, socioeconomic and environmental justice, scenic and recreational resources, geology, noise, and energy.
- **Buffering Capacity**—Of the secondary treatment alternatives considered in the DSEIS, the pond alternatives have larger holding volumes and greater biomass that provide greater treatment reliability by equalizing fluctuations in influent constituent concentrations. The buffering capacity of secondary treatment using ponds will provide a marginal factor of safety against possible toxic upset and pass through. (Although the other pond alternative considered in the DSEIS, AIPS at Spooner's Mesa, also would provide buffering capacity, it was not selected because of a significant impact regarding land use.)
- **Land Use**—Of the two pond alternatives, only the CMA Ponds at the Hofer Site Alternative is consistent with local land use designations. The AIPS Alternative, located at Spooner's Mesa, would be inconsistent with County of San Diego plans for the Mesa and the Multi-Species Conservation Plan.
- **Sludge Quantity and Quality**—Although all the alternatives considered in the DSEIS are expected to produce hazardous sludge, the CMA Ponds at the Hofer Site are expected to produce the least amount of sludge.
- **Costs**—Of the secondary treatment alternatives considered in the DSEIS, the CMA Ponds at the Hofer Site has the lowest capital, operation, and maintenance costs, and meets all project objectives.
- **Timeliness**—Of the secondary treatment alternatives considered in the DSEIS, the CMA Ponds at the Hofer Site can be implemented most expeditiously.
- **Odors and Vectors**—Although nuisance odors are not anticipated to be a problem under normal operating conditions, the pond alternatives provide an added margin of safety against possible odors because of their greater resistance to toxic upset. No vectors are anticipated with the CMA Ponds at the Hofer Site Alternative. This alternative will include design measures, such as concrete skirts and surface aeration, to prevent mosquito-breeding conditions.
- **Public Input**—Although numerous comment letters recommending a variety of alternatives were received, the majority of comment letters on the DSEIS expressed support for a ponding system, specifically requesting that the CMA Ponds at the Hofer Site Alternative be selected as the Preferred Alternative. Common rationale for the preference included high water quality, low cost, and a greater buffering capacity.

Chapter 2.0 Consultation and Coordination

2.1 Public Review and Public Hearing

The *Draft Supplemental Environmental Impact Statement for the International Boundary and Water Commission South Bay International Wastewater Treatment Plant Long Term Treatment Options* was filed with EPA on January 23, 1998, when a notice was published in the *Federal Register*. This public notice initiated the public comment period. A Notice of Availability (NOA), which was published in local newspapers of general circulation, requested that recipients submit written comments on the project and identify issues of concern to be addressed in the FSEIS. Parties receiving the NOA were also notified of and invited to attend a public hearing. On March 2, 1998, the lead agencies conducted a public hearing to obtain input on the DSEIS. The hearing was held at the Southwest High School, 1685 Hollister Street, San Diego, California, and was conducted by a hearing officer from EPA. The transcript of the public hearing is included in this FSEIS in Chapter 4 (Section D, Public Hearing Transcript). On the basis of a request from the public, the close of the comment period was extended 15 days from March 9, 1998, to March 23, 1998.

2.2 List of Agencies, Organizations, and Persons to Whom Copies of the DSEIS Were Sent

A copy of the DSEIS was sent to 107 parties. A list of these individuals, agencies, and organizations is located in Appendix G4 of the DSEIS. Copies of the DSEIS were also sent to the following libraries where they were made available to the public for review:

- San Diego Central Library
- Otay Mesa Branch Library
- National City Public Library
- Coronado Public Library
- Chula Vista Public Library
- Imperial Beach Public Library
- San Ysidro Public Library

2.3 Focus Group Meetings

As part of an effort to solicit public input to select a treatment alternative for the SBIWTP, EPA and the USIBWC facilitated a series of workshops. These workshops were in addition to the regular public meetings held to inform the public of activities associated with this SEIS. The first set of workshops focused on selecting several pond treatment alternatives to carry forward for consideration in this SEIS. The second series of workshops focused on identifying a Preferred Alternative from among the seven alternatives considered in the DSEIS.

2.3.1 Identification of Ponds Alternatives

Two focus group workshops were conducted by the lead agencies to obtain input from interested parties on the criteria to be used and the relative weighting of those criteria for selecting pond treatment alternatives for further consideration in the DSEIS. Meetings were held on December 10, 1996, and January 15, 1997. The following conclusions were reached regarding the public participants' views expressed in the two meetings:

- Public health and water quality issues are the most important.
- Technical feasibility, nuisance odors, and sludge generation were deemed to be approximately comparable.
- Land use, timeliness, and project cost ranked slightly below the criteria noted above.

Using the weighted criteria developed by the Focus Group members, two of the six pond alternatives considered in the sessions were identified by workshop participants as alternatives to undergo further analysis in the DSEIS. These pond alternatives were the AIPS at Spooner's Mesa and the CMA Ponds at the Hofer Site.

2.3.2 Preferred Alternative Discussion

During the preparation of the DSEIS, the lead agencies conducted three structured decisionmaking workshops for the Focus Group on February 2, 16, and 26, 1998, to obtain input on the selection of a Preferred Alternative. Attendance at the meetings ranged from 8 to 23 individuals and representatives of environmental organizations, citizen groups, local government, and a local water district.

The Focus Group members were asked to rank the 17 criteria used in the DSEIS to evaluate the various wastewater treatment alternatives. On the basis of this ranking, 9 of the original 17 criteria were identified as "Most Important" and "Important;" these criteria were carried forward for further consideration. The criteria identified for further discussion by the Focus Group are listed below, in the order of importance:

1. Water Resources
2. Biological Resources
3. Timeliness
4. Public Health and Safety
5. Cost
6. Scenic, Visual, and Recreational Resources
7. Sludge Generation
8. Socioeconomic Resources and Environmental Justice Issues
9. Energy Consumption

The Focus Group then reviewed these nine criteria against the seven alternatives in the DSEIS. The Focus Group unanimously opposed any alternative that would not involve secondary treatment because of the potential impacts on marine water quality, public health, and recreational resources. As a result of these discussions, the Focus Group further narrowed the alternatives to two possible selections that they recommended to the Policy Committee for consideration as preferred alternatives. The two alternatives were the CMA

Ponds at the Hofer Site and the Activated Sludge with FEB. This decision was based on the following issues regarding the criteria selected as “Most Important” or “Important.”

The following sections summarize the issues regarding the criteria selected as Most Important or Important by the Focus Group.

2.3.2.1 Water Resources

Of the criteria used in the DSEIS to evaluate impacts, the Focus Group was most concerned with marine water quality, especially in terms of potential exceedances of water quality standards; toxic spikes; Clean Water Act (Section 301[h] waiver); and chlorination/dechlorination.

2.3.2.2 Biological Resources

The Focus Group felt that the CMA Ponds at the Hofer Site and the Activated Sludge with FEB would have little or no impact on biological resources (either terrestrial or marine), although there was concern by some members that there was insufficient information about the potential impact of marine endocrine disrupters and the ability of the alternatives to address them. Members generally expressed concern about toxicity impacts to marine biological resources but did not relate this concern to the advocacy of their two preferred alternatives.

2.3.2.3 Timeliness

The issue of time in terms of constructing an alternative was important to the Focus Group because they wanted to see an alternative built quickly so that impacts could be addressed as soon as possible. One member of the Focus Group stated that timeliness should only be factored in the consideration of the secondary alternatives, not the advanced primary. Most other group members said that the best technical solution should be implemented in the shortest time possible.

2.3.2.4 Public Health and Safety

The Focus Group expressed concern about users exposed to the marine waters, especially surfers, children, residents of Tijuana, divers, beach users, and those involved in commercial fishing. They also expressed concerns about vectors, such as mosquitoes, as well as potential impacts to workers and residents of Mexico from the sludge generated at the plant.

2.3.2.5 Cost

The Focus Group’s concern about cost was linked directly to the amount of time it would take to generate the funds needed to build the selected alternative and whether the more costly alternative would take longer to implement because of the increased cost.

2.3.2.6 Scenic, Visual, and Recreational Resources

The Focus Group was concerned about this criterion due to the potential impact of pollution on recreational users. They were also concerned about the conclusions in the DSEIS that recreationalists (e.g., surfers, boaters) would be affected by implementing the less than secondary treatment alternatives.

2.3.2.7 Sludge Generation

The Focus Group expressed concern about the volume and toxicity of the sludge generated by the various alternatives and were also concerned about the location of sludge disposal facilities. Many members of the group expressed support of the CMA Ponds at the Hofer Site since this alternative would produce one of the lowest volumes of hazardous sludge, which would need to be removed only during summer months. Focus Group members were also concerned about the lack of an identified disposal site in Mexico.

2.3.2.8 Socioeconomics and Environmental Justice

The Focus Group expressed concern that revenue was being lost to the City of Imperial Beach because of the perception that Imperial Beach was a polluted community.

2.3.2.9 Energy Consumption

The Focus Group raised concerns about energy consumption, including the possibility of “making energy from sewage” using alternative energy sources at the plant (rather than fossil fuels). They also questioned the amount of energy required for each alternative.

2.4 Agency Consultation

As part of the DSEIS, the lead agencies consulted with those agencies with jurisdiction over environmental resources within the project area. This section includes a summary of the consultation with these agencies.

2.4.1 State Office of Historic Preservation

The State Historic Preservation Office (SHPO) has the responsibility of implementing the provisions of the National Historic Preservation Act, as amended. The lead agencies consulted with the SHPO regarding potential impacts to cultural and paleontological resources. Concurrence was received from SHPO on June 20, 1998 (see Appendix H).

2.4.2 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is responsible for oversight of the federal Endangered Species Act (ESA). As required by Section 7 of the ESA, the lead agencies consulted with the USFWS on potential impacts evaluated in the DSEIS. As discussed in a November 9, 1998, letter to USFWS, project mitigation measures either demonstrate no significant impacts (for the California pelican and least tern) or reduce impacts to a level below significance (least Bell's vireo). The USFWS concurred with the lead agencies' determination of no significant impact or a reduction of impacts to a level below significance (see Appendix H for a copy of the January 1999 correspondence from USFWS).

2.4.3 California Coastal Commission

A Coastal Consistency Determination (Determination) was submitted to the California Coastal Commission (Commission) in December 18, 1998. This Determination, included in Appendix J of the FSEIS, evaluated the long-term treatment options for the SBIWTP in consideration of the California Coastal Act of 1976 and the Coastal Zone Management Act, as amended. Based on this information, the lead agencies determined that the

implementation of the CMA Ponds at the Hofer Site Alternative would not result in direct, adverse impacts to the “coastal zone.” The Determination was approved by the Commission on February 5, 1999 (see Appendix H).

Chapter 3.0 Modifications/Updates to the DSEIS

This chapter identifies changes to the text, tables, and figures in the DSEIS made as a result of updates to activities in the interim since the DSEIS was released in January 1998. It also includes changes made as a result of comments received on the DSEIS. Updates to the DSEIS discussed below include: (1) changes in the schedule for implementing treatment alternatives, (2) ongoing progress of the pretreatment program, (3) consideration of additional data on dioxin and acute toxicity, and (4) status of the Final Phase II Sludge Disposal Site Study prepared by Mexico. These changes do not indicate a change in the findings of significance associated with impacts.

3.1 Updates to the DSEIS

3.1.1 Changes in the Schedule

On November 14, 1996, the California Regional Water Quality Control Board (RWQCB) adopted the National Pollutant Discharge Elimination System (NPDES) permit for the SBIWTP. The NPDES permit and Cease and Desist Order include pretreatment requirements, and require that influent limitations be developed for advanced primary and secondary treatment completed through a headworks allocation analysis. (A headworks allocation report will identify wastewater constituents that will adversely affect sludge and effluent quality, and could be used to revise the influent limits in the NPDES permit.) A schedule for the development and implementation of these limitations was completed through the preparation of a headworks allocation analysis. On February 28, 1998, the USBWC requested an extension of the due dates for the development and implementation of these limitations to complete a headworks allocation study for primary and secondary treatment. The extension was also requested so that a long-term treatment alternative could be selected for the SBIWTP. These extensions were granted on May 13, 1998, and October 14, 1998. The deadlines were extended as follows.

- Completion of the SBOO – February 1999
- Submittal of the Record of Decision – May 1999
- Submittal of a Headworks Allocation Report for secondary treatment (containing influent limitations) – January 2001
- Submittal of a Sampling Compliance Plan – February 2001
- Implementation of the Sampling Compliance Plan – April 2001
- Begin remedial action – October 2001

3.1.2 Pretreatment Program

In the interim between publication of the DSEIS and the FSEIS, progress has been made on the pretreatment program in Tijuana for industrial waste. This section provides an update of this program and is an update to Appendix A2 of the DSEIS (Tijuana, Baja Mexico Pretreatment Program).

3.1.2.1 California/Baja California Industrial Waste Monitoring and Pretreatment Assistance Program

In accordance with Minute 283, Mexico has initiated the first steps of an industrial pretreatment program in Tijuana. Mexico is supported by California state agencies (RWQCB, the State Water Resources Control Board [SWRCB]), the USIBWC, the IBWC Mexican Section (MxIBWC), and the City of San Diego in development of the industrial pretreatment program. The USIBWC has and will continue to monitor raw wastewater from Tijuana in accordance with the NPDES permit conditions. The monitoring results will be provided to the appropriate Mexican agencies to develop the pretreatment program. These data will be considered when applying Mexican federal, state, and local laws for industrial pretreatment and Mexican and United States standards for ocean discharge.

On July 22, 1994, the Governors of California, Baja California, and Baja California Sur created the California Border Environmental Cooperation Committee (Cal BECC) to focus on border environmental infrastructure needs and related subjects. In 1996, representatives of the Dirección General de Ecología (DGE) from Baja California asked the California EPA (Cal EPA) for technical assistance with their efforts to develop and implement an industrial wastewater monitoring and pretreatment program in Tijuana.

On October 9, 1996, the RWQCB and the City of San Diego signed a Memorandum of Understanding (MOU) whereby both parties agreed to provide industrial wastewater monitoring and pretreatment technical assistance to Baja, California and/or the City of Tijuana, as needed, to enhance performance of the SBIWTP.

Although the NPDES permit was issued to the USIBWC, DGE is the agency with authority to control industrial discharges to the sewer system in Tijuana. The purpose of the MOU is for the City of San Diego to provide personnel and resources to assist DGE. Also, the purpose was to supplement but not duplicate actions that the RWQCB requires of the USIBWC for compliance with the NPDES Permit.

The program objectives are to meet Mexican and United States standards for the effluent and sludge produced at the SBIWTP and to meet Mexican standards at the San Antonio de los Buenos Wastewater Treatment Plant in Mexico.

The following actions are the main elements of the plan approved by the RWQCB:

1. Share information on pretreatment program policies and procedures between California and Baja, California
2. Initiate a “shadow training” program, in which Baja California representatives work directly with City of San Diego bilingual program staff
3. Provide specific technical training to Mexican wastewater agencies responsible for Tijuana’s industrial wastewater, and assist with wastewater sampling and analysis

4. Identify pollutants of concern and assist in developing a program in which Baja, California representatives would trace pollutants to their sources

The program was designed to satisfy the technical assistance requests of Baja, California. Mexico and Baja California have established laws and regulations regarding industrial wastewater discharges. Baja California, under the authority of DGE, is developing an industrial wastewater program for Tijuana based on existing extensive knowledge of local industries and dischargers. The USIBWC, MxIBWC, City of San Diego, the SWRCB, and the RWQCB are assisting DGE as needed in developing the pretreatment program. These agencies will continue to be available on an as-requested basis for the Mexican agencies.

The binational member agencies of the pretreatment program have established cooperative working conditions. The “shadow training” program began in 1997 and continued through early 1998. The program was expanded to include representatives from all local, state, and federal agencies with industrial wastewater responsibilities in Tijuana. A graduation ceremony for the 45 Mexican participants in the first phases of the shadow training and classroom training program was held November 5, 1998. All objectives of the October 9, 1996, MOU have been achieved.

Baja, California has asked for a continuation and expansion of the program over the next 18 months, beginning January 1, 1999. The three elements of this new program are:

- Continue technical assistance and shadow training program for new employees in Baja California with funding from resources identified in the 1996 MOU.
- Establish a comprehensive sampling and analysis program to be jointly funded by the State of California and Baja, California.
- Develop customized industrial waste monitoring and pretreatment program training materials, using materials developed by Dr. Ken Kerri, Sacramento State University, as a model. Oversight for the development of these materials will be provided by a binational technical committee consisting of City of San Diego, State of California, Baja, California, and United States and Mexico federal agencies, to be funded by the State of California.

The following agencies will participate in the funding and/or work associated with a wastewater sampling plan for Tijuana: State of California; City of San Diego; Baja California’s Department of Ecology; and the Comision Estatal de Servicios Publicos de Tijuana (CESPT), which is Tijuana’s wastewater utility. The purpose of the wastewater sampling plan for the City of Tijuana is to characterize the wastewater in Tijuana and to provide for the capability of tracing constituents to their source for the period from January 1, 1999, to June 30, 2000.

As proposed, wastewater will be sampled every 8 days, and six sites will be sampled during each sampling event. Twenty-four-hour time composite samples will be taken, when appropriate and feasible. When the 24-hour samples are not feasible, grab samples will be taken. The sites of this sampling are:

1. Colector Internacional at Tijuana’s Pump Station One
2. Colector Central at Tijuana’s Pump Station One

3. Influent to the San Antonio de los Buenos Wastewater Treatment Plant
4. River Diversion (MxIBWC's Pump Station)
- 5 and 6. Moveable sites to be located at upstream locations based on information received from previous sampling events

The samples will be analyzed for the following:

- pH
- Conductivity
- Settleable solids
- Total suspended solids (TSS)
- Cyanide
- Biological Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Oil and Grease
- Methylene Blue Active Substances (MBAS), which tests for some surfactants
- Organochlorine pesticides and polychlorinated biphenyls (PCBs)
- Organophosphorus pesticides
- Volatile organic compounds (VOCs)
- Semivolatile organic compounds (SVOCs)
- Metals by ICP: Aluminum, Antimony, Barium, Beryllium, Cadmium, Total Chromium, Copper, Lead, Manganese, Nickel, Silver, Tin, Thallium, and Zinc
- Arsenic and Selenium (by the hydride method)
- Mercury (by the cold vapor method)

In addition, any pollutants identified at any time as possible sources of toxicity will be added to this sampling plan. The idea of including other types of surfactant analysis (in addition to MBAS) and microtox testing for acute toxicity using Mexico's approved method (NOM-AA-112-1995-SCFI) is being reviewed.

3.1.2.2 Acute Toxicity Testing

During 1997 and 1998, testing of advanced primary effluent from the SBIWTP indicated persistent acute toxicity that resulted in consistent exceedance of the 7-day and 30-day limits specified in the NPDES permit for the SBIWTP. An initial Toxicity Identification Evaluation (TIE) was performed by the City of San Diego, Metropolitan Wastewater Department, during the spring of 1998. This effort, however, did not isolate an apparent sole source or combination of sources of toxicity.

During the summer of 1998, Phase I and II TIEs were performed by Pacific Eco-Risk Laboratories, Martinez, California, on three sets of advanced primary effluent from the SBIWTP. Baseline toxicity tests were performed on both fathead minnows and *Ceriodaphnia dubia* (water fleas) to determine the most sensitive of the two species for use in the TIE. The test results determined that *Ceriodaphnia* is more sensitive than the fathead minnow and *Ceriodaphnia* was used as the toxicity test organism for the TIE component of the study.

Findings from the TIE suggest that surfactants are a major source of toxicity in the effluent. Surfactants are typically found in cleaning agents (e.g., detergents) used in domestic and industrial activities. The findings of the TIE have been shared with the Mexican government. Appendix K is the Executive Summary from the TIE (the complete TIE is included in the Administrative Record of this SEIS).

3.1.2.3 Pollution Prevention Program

On October 15, 1997, the California Department of Toxic Substance Control (DTSC) formed a work group to explore the potential to use pollution-preventing techniques at industrial sites in Tijuana. Participants included DGE, RWQCB, SWRCB, and the City of San Diego. The group organized the San Diego/Tijuana Pollution Prevention Work Group, which was modeled after a successful program in the San Francisco Bay region of California. The work group explored opportunities to work cooperatively with managers of industries in Tijuana to eliminate the generation of hazardous discharges at the sources through modification of manufacturing processes.

The DTSC worked with Baja, California Department of Ecology, San Diego State University's Institute for Regional Studies of the Californias, and the Autonomous University of Baja California in Tijuana to present a workshop for border industries and others on pollution-prevention strategies for the electronic industry. The workshop was held on May 12, 1998, in Tijuana, Baja California, Mexico. Approximately 40 people attended the workshop. The workshop was conducted with simultaneous translation in English and Spanish, and manuals of the material covered were distributed to all workshop attendees. The manuals were provided in English and Spanish and included copies of the Bilingual Manual "Pollution Prevention in the Electronics Industry" that the Pollution Prevention Work Group prepared.

Possible future workshops might focus on other industries, depending on availability of funding.

3.1.3 Additional Dioxin Analyses

In the DSEIS, each of the alternatives was evaluated for environmental effects. As part of that evaluation, the fate of hazardous compounds in the Tijuana wastewater was predicted to determine whether the compounds would be decomposed, discharged in the effluent, or remain in the sludge. Monitoring reports from January through December 1995 and from January through August 1996 were used as the basis for the DSEIS evaluation. During this period, there was no detection of dioxin in the wastewater. In September 1996, a new laboratory was contracted to conduct dioxin analyses using a higher resolution instrument that could detect dioxin at lower concentrations. Use of the high-resolution instrument resulted in detection of dioxin. For that reason, the data used in the DSEIS to assess impacts by dioxin were no longer considered adequate. An additional evaluation was performed

using the new monitoring data collected from September 1996 through April 1998. The findings of that evaluation are in Appendix L of this FSEIS.

The removal of dioxin from the wastewater was estimated for each stage of each alternative. For all stages of each alternative, the resulting sludge concentrations of dioxin were predicted to be nonhazardous. The effluent concentration from each alternative was compared to the discharge limit. The marine water concentration of dioxin after 100:1 dilution, as required by the California Ocean Plan, was compared to the Ocean Plan limits. During 3 months of testing, high influent dioxin concentrations would have resulted in the exceedance of these limits for the Advanced Primary and Partial Secondary alternatives (see Table 6 below, from Appendix L). An ecological risk assessment was performed that evaluated the risk caused by dioxin to marine life from the effluent water and from sediment produced from settled solids in the effluent containing dioxin. Estimates of ecological risk from dioxin were somewhat hindered by the lack of regulatory criteria developed for the protection of aquatic life. Estimates were made based on a literature review of EPA guidance manuals and guidelines for assessing ecological risk in the marine environment. The risk assessment did not identify a risk to marine life by any of the alternatives. The calculated hazard quotients for dioxin were so low that dioxin should not be used as the basis for selecting an environmentally preferred alternative to minimize ecological risk.

TABLE 6
Influent and Effluent TCDD-Equivalent Concentrations (pg/L)

Date of Sample	NPDES Permit Effluent Limitation (30-day Avg.)	Influent Concentration (TEQ ¹)	Effluent Concentration for Treatment Alternatives ²						Activated Sludge w/ Exp. Capacity
			Act. Sludge/No Action	Partial Secondary	Act. Sludge with FEB	CMA at Hofer	AIPS at Spooner's Mesa	Advanced Primary	
September-96		0.776	0.0155	0.0854	0.0155	0.0155	0.0155	0.1552	0.0155
November-96		3.890	0.0778	0.4279	0.0778	0.0778	0.0778	0.7780	0.0778
December-96		0.445	0.0089	0.0490	0.0089	0.0089	0.0089	0.0890	0.0089
February-97		2.222	0.0444	0.2444	0.0444	0.0444	0.0444	0.4444	0.0444
March-97		0.134	0.0027	0.0147	0.0027	0.0027	0.0027	0.0268	0.0027
April-97		2.868	0.0574	0.3155	0.0574	0.0574	0.0574	0.5736	0.0574
May-97		2.715	0.0543	0.2987	0.0543	0.0543	0.0543	0.5430	0.0543
June-97		1.537	0.0307	0.1691	0.0307	0.0307	0.0307	0.3074	0.0307
August-97		6.485	0.1297	0.7134	0.1297	0.1297	0.1297	1.2970	0.1297
September-97		0.424	0.0085	0.0466	0.0085	0.0085	0.0085	0.0848	0.0085
January-98		0.438	0.0088	0.0482	0.0088	0.0088	0.0088	0.0876	0.0088
February-98		0.216	0.0043	0.0238	0.0043	0.0043	0.0043	0.0432	0.0043
March-98		0.329	0.0066	0.0362	0.0066	0.0066	0.0066	0.0658	0.0066
April-98		0.110	0.0022	0.0121	0.0022	0.0022	0.0022	0.0220	0.0022

TABLE 6
Influent and Effluent TCDD-Equivalent Concentrations (pg/L)

Date of Sample	NPDES Permit Effluent Limitation (30-day Avg.)	Influent Concentration (TEQ ¹)	Effluent Concentration for Treatment Alternatives ²						
			Act. Sludge/No Action	Partial Secondary	Act. Sludge with FEB	CMA at Hofer	AIPS at Spooner's Mesa	Advanced Primary	Activated Sludge w/ Exp. Capacity
Maximum ²		6.485	0.1297	0.7134	0.1297	0.1297	0.1297	1.2970	0.1297
Minimum ²		0.110	0.0022	0.0121	0.0022	0.0022	0.0022	0.0220	0.0022
Average ²	0.39	1.614	0.0323	0.1775	0.0323	0.0323	0.0323	0.3227	0.0323
Standard Deviation ²		1.860	0.0372	0.2046	0.0372	0.0372	0.0372	0.3721	0.0372

¹ TCDD Toxicity Equivalents

² Predicted effluent concentrations shown in bold and shaded indicate when the discharge limit would be exceeded.

3.1.4 Final Phase II Sludge Disposal Site Study from Mexico

The State Public Services Commission of Tijuana (Comision Estatal de Servicios Publicos de Tijuana [CESPT]) prepared a study to evaluate potential disposal sites in Mexico for sludge generated from operation of the SBIWTP (*A Study of the Management, Treatment and Disposal of the Sludge Generated by the 1,100 L/S Binational Municipal Wastewater Treatment Plant, see Appendix M*). This section presents a brief summary of the study, its findings, and its recommendations. Portions of this study were translated from Spanish to English and are included as Appendix M of this SEIS.

The first step in the selection of a sludge disposal site was to evaluate the sludge for quality; quantity; and biological, chemical, and other characteristics. The study concludes that the sludge is nonhazardous and not highly leachable, and that criteria for location of a municipal waste landfill are appropriate for the sludge. The sludge is considered appropriate for either composting and land application, as fill, or for land disposal. Uses considered included agricultural, forestry, retrieval, and disposal. Specific uses, such as to fill in ravines, to create parkland, or to use as compost, were discussed. Based on this evaluation of the sludge characteristics and potential uses, possible disposal sites were reviewed.

The criteria considered in the selection of the sludge disposal sites were that the sites: are to be located within the Municipality of Tijuana, are not within the recharge zone of the Abelardo L. Rodriguez Dam, will not interfere with the natural drainage of the current municipal sanitary fill, are not susceptible to erosion, and have minimal social and environmental impacts. Other criteria included a priority that drainage in the sludge-placement area should not be towards urban areas, potentially developed areas, or the Rodriguez Dam, but rather that the site should drain directly towards the Pacific Ocean. Because the sludge is classified as a biosolid, its placement on land is considered in the study to be a beneficial impact.

A total of eight sites were evaluated and placed in one of two geographical categories--five sites in the Priority One Zone and three sites in Priority Two Zone. The sites located within the Priority Two Zone were eliminated from consideration because of their remote location

to the south of Rosarito, which is outside the Municipality of Tijuana. The five sites in the Priority One Zone were identified as the most desirable for sludge disposal because the Priority One Zone best meets the evaluation criteria (i.e., located near the San Antonio de los Buenos Wastewater Treatment Plant, and at the source of streams that drain into the Pacific Ocean). Evaluation of the five Priority One Sites considered potential impacts on surface water, groundwater, soil, flora, fauna, air, noise, employment, taxes, local benefits, traffic, and landscaping.

Two of the five sites in Priority One Zone (Sites D and E) were selected by Mexico as the preferred disposal locations because they are close to the wastewater treatment plant and are served by an existing access road. The study identified a process for sludge disposal that includes transport of the sludge from the SBIWTP to a temporary location adjacent to the San Antonio de los Buenos Wastewater Treatment Plant time (at Site A) to allow the sludge to stabilize. It was concluded that the sludge should first be stabilized to eliminate vectors and odors at an interim site. Land at the San Antonio de los Buenos Wastewater Treatment Plant, where the sludge is currently being placed, was recommended for this purpose. The study notes that this site is a plateau susceptible to erosion. The study then recommends that the sludge be transported to the midterm disposal site. Based on the environmental review conducted by Mexico, Sites D and E are the preferred disposal locations. Mexico is still evaluating whether the sludge will be used for soil improvement or deposited only as fill.

3.1.5 Bajagua

During the scoping period for the SEIS, a secondary treatment option in Mexico, the Bajagua Project, was presented to the lead agencies by Agua Clara LLC, a private joint venture, as a possible alternative for consideration. The proposed project would consist of a facility in Tijuana that would treat the advanced primary effluent from the SBIWTP to a secondary level. The effluent that could not be sold on the reclamation market would be returned to the SBIWTP for discharge through the ocean outfall in the United States. The Bajagua facility would be owned privately by Agua Clara.

In the Draft SEIS, the agencies considered the Bajagua alternative but eliminated it from further consideration because “it was not a reasonable and feasible method for substantially accomplishing the objective of providing long-term treatment at the SBIWTP.” (See page 1-45 of the Draft SEIS.) Specifically, the Bajagua proposal was at a conceptual stage, because no formal plans delineating the project had been submitted to the lead agencies. The proposal was not endorsed by the Mexican federal government, and was considered outside the scope of the SEIS because Treaty Minute 283 and Section 510 of the Water Quality Act of 1987 calls for secondary treatment in the United States.

3.1.5.1 Current Status

Since the release of the Draft SEIS in January 1998, the lead agencies (EPA and USIBWC) have had additional communication with Agua Clara regarding Agua Clara’s desire for the Bajagua project to be included as an alternative in the SEIS. As currently proposed, the project is similar to the project previously delineated, although some additional information has been provided to the lead agencies concerning specific features of the proposed project (see Appendix N). The Bajagua project, however, remains an unfeasible and conceptual

alternative that would require much more action on the part of the sponsors as well as the U.S. Congress and Mexico before the project could be considered as an alternative.

Despite the fact that the agencies firmly believe that the Bajagua project remains unfeasible, EPA and USIBWC sent a letter to Agua Clara on January 1999 that discussed the process for possible future consideration of the project (see Appendix N). The letter describes a “parallel path” that Agua Clara could take while the lead agencies complete the current NEPA document and proceed with planning and design activities to implement the Record of Decision (ROD).¹ This parallel path would ensure that the SEIS, and eventually secondary treatment for the SBIWTP, would be concluded within the time frames required by the Regional Water Quality Control Board’s Cease and Desist Order. Because contracting for the construction of the selected secondary alternative would not occur until fall of 1999, Agua Clara could, within that time frame, develop the Bajagua proposal to a feasible level, in accordance with the requirements described below. If that occurred, EPA and USIBWC would seriously consider completing any required NEPA documentation for the Bajagua project, and adjusting plans and schedules accordingly. The ROD would then be amended if the lead agencies identified the Bajagua proposal as the preferred alternative in the new NEPA document.

The following are the primary reasons the Bajagua project is not a feasible alternative at this time. The lead agencies have indicated, however, that if Agua Clara completed actions with respect to these items (i.e., the parallel path), the agencies would re-evaluate the decision to be made in the ROD:

1. **Funding and Contracting:** Agua Clara must secure new legislation from the U.S. Congress that would provide legal authority for the U.S. to implement the Bajagua project, which currently could not be implemented under U.S. law. Specifically, new law would have to be authorized and money appropriated to the USIBWC that could be used to fund the project costs over the 50-year service agreement period. Currently, the Anti-Deficiency Act prohibits the Federal government from entering into a contract in advance of appropriations made for such purpose or in excess of the amount available, unless authorized by law. Agua Clara must also secure new legislation from the U.S. Congress which would authorize a sole source contract with Agua Clara, currently prohibited by federal law and the Federal Acquisition Regulations (FAR).
2. **Mexico Project Approval:** Agua Clara must provide a letter from MxIBWC to the USIBWC requesting to renegotiate Treaty Minute 283 to allow for treatment facilities to be placed in Mexico. In addition, it would be desirable for Agua Clara to obtain explicit written support from various Mexican interests, including CNA, Baja California, and the City of Tijuana.

¹Under NEPA, the lead agencies cannot disclose a new alternative in the final document that differs dramatically from the alternatives described in the draft. If the agencies did this, the alternative would preclude the public from meaningful consideration of the proposal. NEPA has been interpreted to require that all alternatives be fully disclosed in the draft document so that (1) the public is aware of the range of options being considered including the alternative finally selected and (2) the public’s comments on the draft document should provide meaningfully information to the agency on the public’s attitudes toward the chosen alternative.

3. NPDES Compliance: Agua Clara must establish enforceable legal mechanisms to ensure that the quality of treated effluent being returned to the U.S. will meet the California Ocean Plan and Clean Water Act standards. Provisions to ensure ongoing operation in the event of bankruptcy, or other impediments to operation must be established. The issue of whether USIBWC or Agua Clara is the permittee needs to be determined by the California Regional Water Quality Control Board.
4. NEPA Requirements: Agua Clara must provide an environmental information document (EID) on the proposal by April 30, 1999. This document would serve as the basis for a subsequent NEPA document should the lead agencies decide to consider the Bajagua project.
5. Project Design: Agua Clara must submit written land options for the project site, pipeline right-of-way, preliminary design, and a detailed estimate of funding requirements.

3.2 Changes to the DSEIS

Several commentors suggested changes, clarification, or additions to the text of the DSEIS. This section documents those requested changes. The changes in this section replace those parts of the DSEIS referenced below.

3.2.1 Changes to the Executive Summary Text

Additional explanations are included in the DSEIS Executive Summary (page ES-7) stating that, despite high biological oxygen demand (BOD) and total suspended solids (TSS) effluent concentrations, these concentrations still meet secondary equivalent standards. The following information is added to both Section 1.5.3 and the Executive Summary under Project Alternatives, in the discussion for AIPS at Spooner's Mesa Site:

The effluent BOD and TSS from the secondary equivalent treatment are higher than for activated sludge because the effluent from the settling ponds contains algae, which inflates both BOD and TSS. In effect, the ability to remove wastes is equivalent to secondary treatment by activated sludge; but the final effluent has higher concentrations of BOD and TSS. The increases in these parameters represent algae, not wastes.

3.2.2 Changes to Table ES-1, Executive Summary

A footnote is added to the column labeled "Impacts to Mexico" in Table ES-1 to include the following text:

Information about Mexico is obtained from public information made available by Mexican authorities. The USIBWC observes that Mexico is a participant in the international agreement for the SBIWTP construction, and operations and maintenance, and does not require the USIBWC to analyze impacts in Mexico. As a matter of discretion, the USIBWC considers it appropriate that information regarding conditions in Mexico be incorporated into this document.

3.2.3 Changes to Figure 1.5-8, Physical Features of Completely Mixed Aerated Pond System at Hofer Site Alternative

Figure 1.5-8 in Section 1.5.3.1 of the DSEIS is revised to clarify the Hofer/USIBWC property line. The revised figure is included at the end of this chapter.

3.2.4 Changes to Figure 2.1-3, Oceanographic Features

Figure 2.1-3 in Section 2.1.4.1 of the DSEIS is revised to show an added artificial reef. The coordinates of the added reef are: 32° 32' 38" North, 117° 14' 48" West. The revised figure is included at the end of this chapter.

3.2.5 Changes to Chapter 2, Affected Environment

Biological Resources (Section 2.2.2.3, Marine Birds, of the DSEIS)

The third full paragraph under Section 2.2.2.3, page 2-26 of the DSEIS, is revised as follows:

Seven seabird nesting colonies occur in or near the South Bay area (nesting sites in Baja California were not included) (Sowls et al, 1980). Seven sites for California least tern, a federal- and California-listed endangered species, occur in Mission Bay, north San Diego Bay, and near the Tijuana River mouth. California least terns also have nesting colonies in mid-San Diego Bay at the Naval Amphibious Base, Coronado, and three nesting colonies in south San Diego Bay. The south San Diego Bay colonies are located at Chula Vista Wildlife Reserve, "D" Street Fill, and the Salt Works.

3.2.6 Changes to Chapter 3, Environmental Consequences

Introduction to Chapter 3 (of the DSEIS)

The following new text is added to Chapter 3, first paragraph, on page 3-1 of the DSEIS:

Information about Mexico is obtained from public information made available by Mexican authorities. The USIBWC observes that Mexico is a participant in the international agreement for the SBIWTP construction, and operations and maintenance, and does not require the USIBWC to analyze impacts in Mexico. As a matter of discretion, the USIBWC considers it appropriate that information regarding conditions in Mexico be incorporated into this document.

Marine Water Quality (Section 3.1.3.2 of the DSEIS)

The third paragraph on page 3-11 in the impacts discussion of Section 3.1.3.2 of the DSEIS references Tables 6.12A through 6.15 in Appendix C. This text reference is changed to Tables 6.13 through 6.15.

Completely Mixed Aerated System at the Hofer Site, Mitigation (Section 3.2.4.1 of the DSEIS)

The following text is added to Section 3.2.4.1 on page 3-23 under the “Mitigation” heading of the DSEIS as a new paragraph at the end of the section:

During the final design of the ponds, EPA and USIBWC will consider opportunities to discourage the use of the ponds by birds. EPA and USIBWC will also develop a plan that will include regular monitoring of the clarifying pond to determine the frequency of bird use of the pond, which species are using the pond, and if there are any impacts to the birds by the ponds. If endangered species are observed at the ponds, the appropriate agency will be notified.

3.2.7 Changes to Chapter 5, Applicable Environmental Regulations in the United States and Mexico**Introduction to Chapter 5 (of the DSEIS)**

The third, fourth, and fifth sentences in the first, introductory paragraph of Chapter 5 of the DSEIS beginning with “Potentially applicable Mexican regulations...” and ending with “...implementing any of the alternatives” is deleted. These sentences are replaced with the following text:

Information about Mexico is obtained from public information made available by Mexican authorities. The USIBWC observes that Mexico is a participant in the international agreement for the SBIWTP construction, and operations and maintenance, and does not require the USIBWC to analyze impacts in Mexico. As a matter of discretion, the USIBWC considers it appropriate that information regarding conditions in Mexico be incorporated into this document.

Mexican Regulations and Permits (Section 5.2 of the DSEIS)

The first two sentences in Section 5.2 on page 5-17 in the DSEIS, beginning with “The Council on Environmental Quality...” and ending with “...impacts to Mexico from the alternatives” are replaced with the following text:

Information about Mexico is obtained from public information made available by Mexican authorities. The USIBWC observes that Mexico is a participant in the international agreement for the SBIWTP construction, and operations and maintenance, and does not require the USIBWC to analyze impacts in Mexico. As a matter of discretion, the USIBWC considers it appropriate that information regarding conditions in Mexico be incorporated into this document.

3.2.8 Changes to Appendix B2, Present Value Cost Estimate

In Appendix B2 of the DSEIS, all references to December 1996 for the construction cost estimates being adjusted to an Engineering ENR cost-construction index in the SBIWTP Final Conceptual Design Report are changed to August 1997. The ENR of 6,522 is also changed to 6,631.

3.2.9 Changes to Appendix B3, Sludge Quantity and Quality

Table 8 of Appendix B3 of the DSEIS, Average Daily Sludge Quantities and Numbers of Truck Loads per Alternative

In Appendix B3 of the DSEIS, Section 2.3, footnote number 4 for Table 8, Average Daily Sludge Quantities and Number of Truck Loads per Alternative, is revised. The following information is added to the existing footnote text “Only conventional primary sludge is included...”:

...to include secondary sludge. The number of trucks per day would increase in the summer (3 months) to 6.7 for Alternative 4a and 6.9 for Alternative 4b.

The revised table is included at the end of this chapter.

Sludge Quantity and Number of Trucks per Day (Section 2.3 of the DSEIS)

The text following Table 8 in the DSEIS is also updated, and now states “For Alternative 4a, this equates to 1.5 trucks per day...” rather than the previous number of 1.4 trucks per day.

3.2.10 Changes to Appendix B4, Evaluation of Effluent Coliform Levels and Disinfection for Ocean Discharge

Table 2, Projected Effluent Coliform Levels

In Table 2, Projected Effluent Coliform Levels, of the DSEIS, the average flow conditions for fecal matter, seventh column, for Alternative 4A (CMA ponds) is revised to 2.5E+051.

Chlorination By-Products Formation (Section 4.2 of Appendix B4 of the DSEIS)

The sixth sentence in the second paragraph of Section 4.2, Chlorination By-Products, of the DSEIS is changed. The existing text, “...concentration in Alternatives 4a and 4b would be 8 µg/L” is changed to “...concentration in Alternatives 4a and 4b would be 1.6 µg/L.”

3.2.11 Changes to Appendix B5, Modification to the Hofer Site Alternative

The dollar values in the first paragraph in the cost discussion in the “Evaluation by Phase II Ponds Study Criteria” section of Appendix B5 of the DSEIS is updated. The previous text stated “The total construction cost estimated for the modified alternative is \$14,820,000, as compared . . . The modified design represents a decreased construction cost of \$4,164,000.” The new text now states “The total construction cost estimated for the modified alternative is \$17,320,000, as compared . . . The modified design represents a decreased construction cost of \$1,664,000.”

3.2.12 Changes to Appendix C, Effluent Discharge and Dispersion through the South Bay Ocean Outfall

Table 5.7C, Removal Efficiencies Applied to Ocean Plan Table B Constituents

Table 5.7C in Appendix C of the DSEIS is updated. The updated figures for the percentage of removal efficiency for tetrachlorodebenzo-p-dioxide (TCDD) equivalent were:

- Conventional Primary—17 percent

- Advanced Primary—45 percent
- Secondary (Activated Sludge)—45 percent
- CMA Pond System—92 percent
- AIPS—92 percent

These removal efficiencies are revised as follows:

- Conventional Primary—64 percent
- Advanced Primary—80 percent
- Secondary (Activated Sludge)—98 percent
- CMA Pond System—98 percent
- AIPS—98 percent

References (Section 8 of Appendix C of the DSEIS)

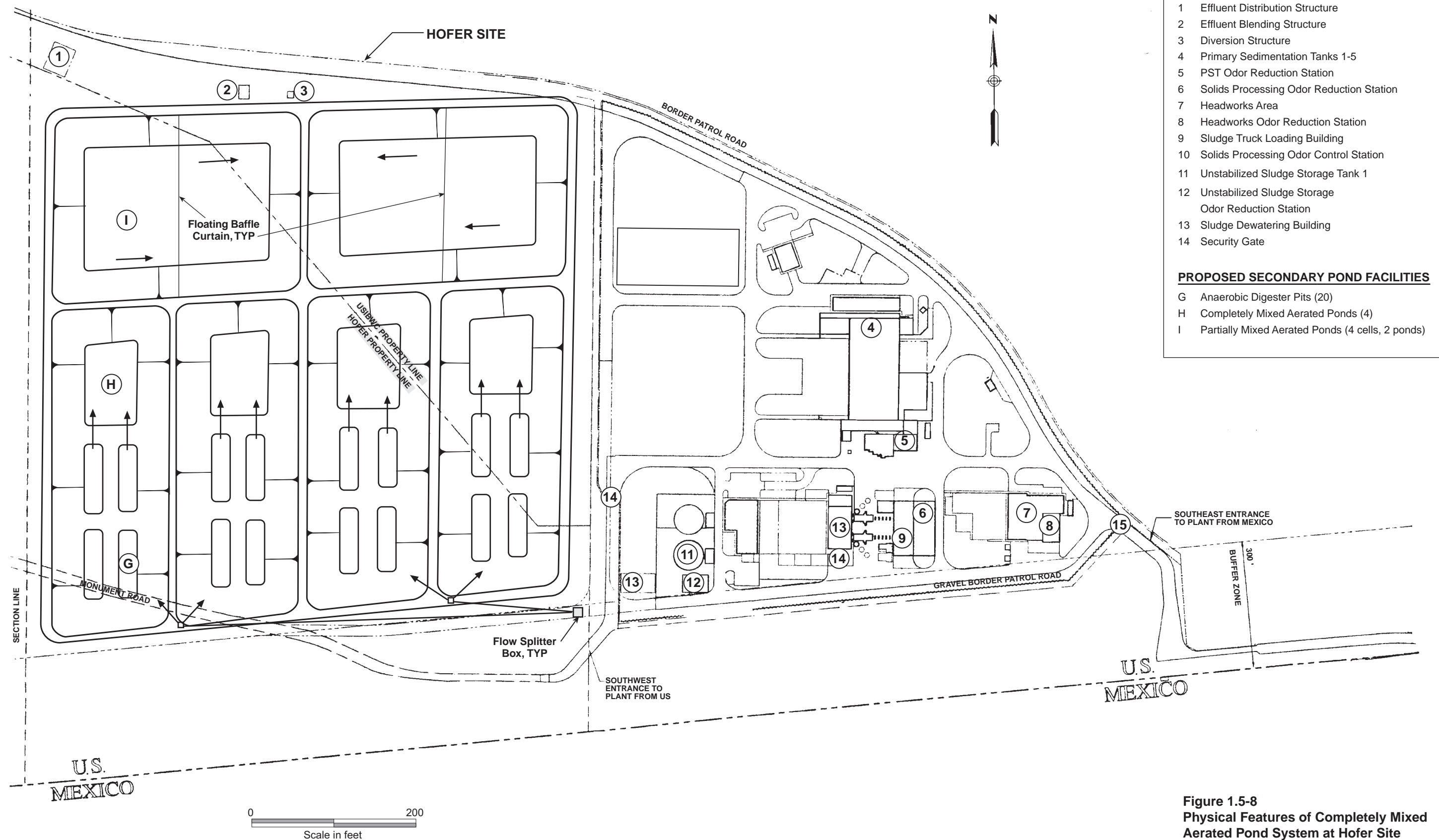
Section 8, References, of Appendix C in the DSEIS is updated to include the following reference:

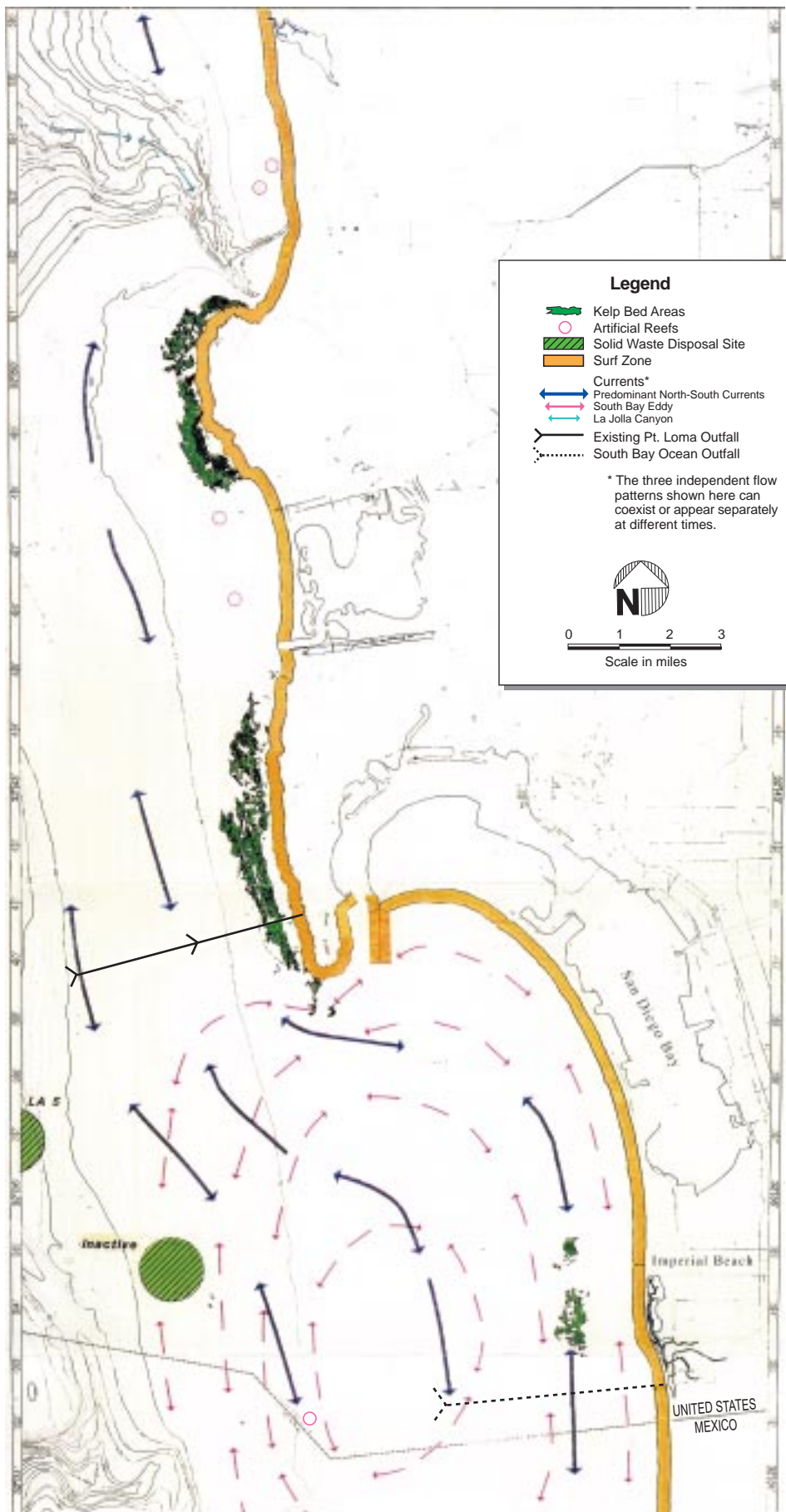
City of San Diego, Metropolitan Wastewater Department, Environmental Monitoring and Technical Services Division. Emergency Connection Study, City of Tijuana, Baja, California, Mexico. 1995 and 1996.

3.2.13 Revisions to References

All references to CILA in the DSEIS are changed to USIBWC Mexican Section in the DSEIS. The abbreviation for this is changed from CILA to MxIBWC.

In addition, all references in the DSEIS to the State of Baja are revised to be Baja, California.





Source: RECON, Interim Operation SEIS, 1996

Figure 2.1-3
Oceanographic
Features
 SEIS for SBIWTP Long-Term Treatment Options

TABLE 8
Average Daily Sludge Quantities and Number of Truck Loads per Alternative

Alternative Number	Alternative Name	Total Solids			
		Dry Solids tons/day	Solids, %	Wet Solids tons/day ¹	Trucks/day ²
1	No Action	48.9	27	181	9.0
2	Partial Activated Sludge	45.3	27	168	8.4
3	Activated Sludge with FEB ³	48.9	27	181	9.0
4a	CMA at Hofer ⁴	27.8	27	103	5.2
4b	AIPS at Spooner's Mesa ⁴	27.8	27	103	5.2
5	Advanced Primary	36.1	27	134	6.7
6	Activated Sludge with Increased Capacity	48.9	27	181	9.0

¹"Wet Solids" refers to high-moisture-content solids.

²Average truck load capacity is 20 tons of wet solids.

³FEB = flow equalization basin.

⁴Only conventional primary sludge is included.

Chapter 4.0 Responses to Comments

4.1 Introduction

This chapter contains copies of the comments received by the lead agencies on the DSEIS and responses to those comments. The comments are reproduced with an identifying document number at the top of the first page of each letter. The comments were submitted as letters, postcards, electronic mail (e-mail), and the public hearing transcript. Each letter, postcard, e-mail, or speaker at the public hearing has been assigned a letter and number designation at the top of the comment letter. The letter portion of the designation corresponds to one of the five comment categories to assist in finding individual letters:

- A. Government Agencies
- B. Organizations
- C. Individuals
- D. Public Hearing Transcript
- E. Comments Received after the Public Comment Period Closed

This chapter also contains the responses to these comments coded in the same letter-number designation as listed above.

A total of 306 comment letters and postcards, containing 477 individual comments, was received for the DSEIS. Of the letters and postcards received, 12 were from government agencies; 13 were from nongovernment organizations; and 281 were from individuals, including students from an 8th grade class at Coronado Middle School and the EARTH Club at Grossmont College. In addition, 33 people testified at the public hearing held at the Southwest High School Auditorium in San Diego on March 2, 1998. The comment period began on January 23, 1998, when the Notice of Availability was published in the *Federal Register*. On the basis of a request from the public, the close of the comment period was extended from March 9, 1998, to March 23, 1998.

Table 4-1 provides an index of the government agencies, nongovernmental organizations, and individuals that submitted written or oral comments on the DSEIS.

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
A. GOVERNMENT AGENCIES	
A1	California Coastal Commission
A2	Centers for Disease Control and Prevention, Department of Health and Human Services
A3	City of Imperial Beach
A4	City of San Diego, Land Development Review Division, Water Utilities Section
A5	City of San Diego, Metropolitan Wastewater Department, Public Works
A6	County of San Diego, Department of Environmental Health
A7	California Department of Fish and Game
A8	County of San Diego, Department of Parks and Recreation
A9	Congressman Bob Filner
A10	Federal Emergency Management Agency
A11	U.S. Fish and Wildlife Service
A12	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
A13	Congressman Brian Bilbray
A14	Leucadia County Water District
A15	Tia Juana Valley County Water District
B. NONGOVERNMENTAL AGENCIES	
B1	Agua Clara, LLC.
B2	William Swan, Attorney/Consultant
B3	Citizens Against Recreational Eviction
B4	The Green Store
B5	Imperial Beach Chamber of Commerce and Visitor's Bureau
B6	Preserve Wild Santee
B7	San Diego Audubon Society
B8	Sierra Club, San Diego Chapter
B9	Surfrider Foundation
B10	Tijuana River Valley Equestrian Association
B11	Citizens Revolting Against Pollution
C. INDIVIDUALS	
General Comment Letters	
C1	Anderson, Janet and Glascock, John
C2	Archer, Karen
C3	Bailis, Robyn
C4	Beeman, Daniel
C5	Boulware, Sylvia
C6	Boyer, Megan
C7	Buffett, Brad
C8	Collier, Rachelle, et al
C9	Censor, Alexander

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C10	Cheritarese, Marcus
C11	Cinciarelli, Kasey
C12	Cooper, William
C13	Cruickshank, Jay
C14	Davies, Jeanne
C15	Davies, Shannon
C16	Demers, Paul
C17	Duncan, Edward
C18	Evans, Bill
C19	Fayman, Lana
C20	Fidel, Bradley
C21	Frances, Dave
C22	Gilgun, Michael
C23	Gookin, Edwin
C24	Gorelik, Max
C25	Grauer, Stuart
C26	Gray, Kari
C27	Gurol, Mirat
C28	Hamerman, Lawrence and Catherine
C29	Hanson, Bob
C30	Hanson, David
C31	Heppard, David
C32	Hesse, Chris
C33	Hickman, Erin
C34	Howell, Robert
C35	Jaffee, James
C36	Jaffee, Michele
C37	jhorowit@millennianet.com
C38	Johnson, Clifford
C39	Kent, Eileen
C40	King, Paulette Sue
C41	Knox, Jeffrey
C42	Marasco, Patrick
C43	Neff, Eric, Denise, and Erica
C44	Nelson, Chet and Yvonne
C45	Neri, Jim
C46	Newgard, Bruce and Constance
C47	Noel, Crysti
C48	Oberndorfer, Ron
C49	O'Leary, Cathy
C50	Ostrye, Maureen

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C51	Papworth, Carol
C52	Paul, Carolyn
C53	Penaligon, Jim
C54	Pray, Wayne
C55	Puzo, Joseph
C56	Renteria, Gracie
C57	Romo, Oscar
C58	Rotter, Thomas
C59	Shamlou, Shawn
C60	Shaw, Daniel
C61	Shively, Ellen
C62	Smith, Zack
C63	Sprofera, Eugene
C64	Stabile, Mary Ann
C65	Tucker, Bryan
C66	Vidali, Aldo and Viktoria
C67	wahinej@aol.com
C68	Wandenberg, J.C.
C69	Wichmann, Kathy
C70	Woodward, Brian
C71	Zak, Rich
C72	(unknown), Jackie
C73	(anonymous)
C74	(illegible)
Coronado Middle School	
C75	Abeyta, Billy
C76	Ayres, Erin
C77	Barraza, David
C78	Bryan, Carl
C79	Cavner, Brad
C80	Chmelik, Joanna
C81	Chrisman, Travis
C82	Considine, Jamie
C83	Cortez, Marina
C84	Cosner, Roth
C85	Delgado, Eric
C86	Duncan, James
C87	Fancy, Megan
C88	Flores, Virginia
C89	Gamalinda, Jennifer
C90	Ghio, Sergio

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C91	Greenwald, Lauren
C92	Hamill, Ashley
C93	Hammett, Tom
C94	Hernandez, Alvin
C95	Hollaender, Oliver
C96	Huff, Tineka
C97	Levacy, Robert
C98	Linnell, Allison
C99	Lopez, Alberto
C100	Markel, Jeff
C101	McIsaac, Jimmy
C102	Mendiburu, Ernesto
C103	Morris, Chelsea
C104	Ottobre, Mia
C105	Overbaugh, William
C106	Poff, John
C107	Rosbach, Chrissy
C108	Rowe, Reid
C109	Schneider, Ryan
C110	Seson, Eligin
C111	Smallwood, Lynn
C112	Smith, Courtney Fox
C113	Stahley, Vanessa
C114	Spreter, Philip
C115	Tiv, Sodanine
C116	Todd II, Patrick
C117	Westhart, Rose
C118	Smallwood, Wendy
C119	Armstrong, Albert
C120	Freeland, Samantha Jean
C121	(illegible), Elizabeth
C122	Ball, Jason
C123	Rosa, Kekoa
C124	L (illegible), David
C125	Fagg, Kristin
C126	(illegible)
EARTH Club at Grossmont College	
C127	Allison, Janet
C128	Ames, Rhonda Jill
C129	Andersen, Brian
C130	Alexander, Kelly

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C131	Alexander, Robert
C132	Armstrong, Camille
C133	Baracco, Craig
C134	Barmann, Matthew
C135	Bartlett, Sally
C136	Belofsky, Rachel
C137	Berman, Elayne
C138	Blum, Donna Greene
C139	Bowman, Sharon
C140	Brandes, John
C141	Bratberg, Rania
C142	Brecht, Dorothy
C143	Bryan, Kim
C144	Burkardt, Joanne
C145	Bussey, Bill and Jeanine
C146	Campbell, Dolph
C147	Campbell, Tom
C148	Carpenter, Elizabeth
C149	Cherry, Mary
C150	Christianson, Bob
C151	Coburn, Susan
C152	Corbaley, P.A.
C153	Cummings, Stephen
C154	Cuprys, Christine
C155	Davidoff, Robyn
C156	Dentlinper, Margaret
C157	Dalton, Harry
C158	Dalton, Rebecca
C159	Dicey, Roberta
C160	Dold, Debi
C161	Duncan, Gary
C162	Duncan, Patricia
C163	Dykeman, Rhonda
C164	Elder, Paul
C165	Emerick, Joan
C166	Evans, Bill
C167	Feldman, Ken
C168	Fontane, Leah
C169	Ford, John Patrick
C170	Frank, Cynthia
C171	Frazier, James

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C172	Freeman, Vernon
C173	Friedman, David
C174	Gallagher, Pat
C175	Gallo, Pauline
C176	Garner, Richard
C177	Ghelardi, Jeff and Suzanne
C178	Gilmore, Melanie
C179	Gittes, Rita
C180	Glen, Gail
C181	Gold, Donald
C182	Goldman, Charlotte
C183	Gordon, Ivy
C184	Graham, Scott
C185	Gregorio, Barbara Bryan
C186	Gruee, David
C187	Gudehns, Kathy
C188	Guza, Sally
C189	Hanna, Gail
C190	Hannan, James
C191	Hanssen, Helen
C192	Hanssen, Karl
C193	Harz, Alexa
C194	Hershey, Roger and Nancy
C195	Higgins, Micheal
C196	Higginson, Norman
C197	Hultman, Greg
C198	Huskey, Joanna
C199	Jacot, Henri
C200	Jope, Howard
C201	Irwin, Blair
C202	Kassner, Kimberly
C203	Klaser, Kenneth
C204	Klein, Leslie
C205	Knudson, Kent
C206	Kuisle, Troy
C207	K (illegible), Karl
C208	Lambert, Cindi
C209	Lee, Donald
C210	Leibbrand, Elaine
C211	Loeb, Ann and Michael
C212	Lorenzen, Fred

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C213	Mangini, Maurizio
C214	Mastos, Kathryn
C215	Mates, A
C216	Mayers, Steven
C217	McCarty, Michael
C218	McCown, James
C219	McIntyre, Jan
C220	Medler, Shery
C221	Meredith, James
C222	Mitchell, Will
C223	Nahama, Esther
C224	Napolitan, Donna
C225	Newgard, Constance
C226	Newland, Glenn
C227	O'Leary, Catherine
C228	O'Rourke, Neil
C229	O'Rourke, Ruth
C230	Page, Joe
C231	Paxton, Jack
C232	Pilot, Mildred
C233	Porter, Roy
C234	Post, Ann
C235	Pullen, Barry
C236	Rasmussen, James
C227	Richard, Lucille
C238	Risque, Robin
C239	Rodriguez, Gabe
C240	Rudd, Karen
C241	Rupp, Judy
C242	Ryder, Jan
C243	Sammis, Frederick
C244	Samples, Charles
C245	Scally, Brynn
C246	Scott, Linda
C247	Scott, Marika
C248	Scott, Tyler
C249	Schmidt, Brigitte
C250	Schulz, Don
C251	Schwartz, Beverly
C252	Senda, Gerry
C253	Sewell, Ruth

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
C254	Sheehy, Kevin
C255	Slater, Marilyn
C256	Slates, Harvey
C257	Smith, Amy
C258	Smith, Devore
C259	Smith, Diane
C260	Solovay, Alice
C261	Stacy, Lydia
C262	Stillo, Larisa
C263	Studen, Charles and Suszynski, Joseph
C264	Sullivan, Mike
C265	S (illegible), Virginia
C266	Taylor, David
C267	Thelen, Michele
C268	Torbett, Glenn
C269	Twist, Dulce
C270	Veach, Noel
C271	Vinton, Robert
C272	Walsh, Shelly
C273	Warner, Michelle
C274	Welch, Brent
C275	Yalir, Debbie and Herb
C276	Zynda, Lawrence
C277	Zynda, Rose Marie
C278	(illegible)
C279	(illegible)
C280	(illegible)
C281	(anonymous)
D. PUBLIC HEARING TRANSCRIPT	
D1	Inzunza, Gilbert
D2	Letter, Art
D3	Simmons, Robert
D4	Sirota, Gary
D5	Ricks, Candace
D6	Spangler, Chris
D7	Wessig, Helge
D8	Gomez, David
D9	Kimura, Edward
D10	Claycomb, William
D11	Moser, Ken
D12	Francis, Dave

TABLE 4-1

Index of Comment Letters on the Draft SEIS

Comment Number	Commentor
D13	Westling, Clay
D14	Nino, Jackie
D15	Powers, Carolyn
D16	Saldana, Lori
D17	Knox, Jeff
D18	King, Sue
D19	Hanson, Dave
D20	Pendergraft, Vernon
D21	Chase, Dave
D22	Puegh, Jim
D23	Watson, Muriel
D24	Bailis, Robyn
D25	Letter, Art
D26	Spangler, Chris
D27	Sirota, Gary
D28	Simmons, Robert
D29	Beeman, Daniel
D30	Knox, Jeff
D31	Saldana, Lori
D32	Letter, Art
D33	Inzunza, Gilbert
E. COMMENTS RECEIVED AFTER THE CLOSE OF THE PUBLIC COMMENT PERIOD	
E1	Hunt, Wayne
E2	Matteo, Carolyn

4.2 General Comments and Responses

In reviewing and considering the written and oral comments received on the DSEIS, it became apparent that many commentors raised similar and overlapping issues. Consequently, the following General Responses have been developed to address the key issues that were raised frequently during the public review period. These general responses are intended to summarize and supplement specific responses to individual comments submitted, and are not intended to respond to every issue raised.

The individual responses to comments are cross-referenced to these General Responses, and in some instances, responses to other comment letters. The General Responses are summarized into the following categories:

1. Expandability and land use of the SBIWTP
2. SBIWTP performance (including toxicity and toxic spikes) and the industrial pretreatment program in Tijuana
3. Odor

4.2.1 General Response 1 – Expandability and Land Use

4.2.1.1 Need for Expansion

This General Response addresses the comments received about the physical expansion of the SBIWTP to accommodate potential increased influent flows from Tijuana, Mexico, and the land use in the area. In Minute 283 (see Section 1.2.3 and Appendix A1 of the DSEIS), the United States and Mexico agreed to construct and operate a secondary wastewater treatment plant in the United States to treat 25 mgd of wastewater from Tijuana. The United States and Mexico have not agreed that wastewater flows in excess of this amount would be treated in the United States. Additional wastewater treatment capacity is actively being pursued by Mexico, and the Mexican Government is planning to construct four wastewater reclamation plants in Tijuana that would treat up to 15 mgd. It is not anticipated at this time that the SBIWTP will be expanded to treat wastewater flows in excess of 25 mgd. If, at a later date, facility expansion in the United States is determined to be necessary, the environmental impacts associated with that action will be evaluated in a separate environmental document.

4.2.1.2 Expandability

Expandability refers to the ability to expand the treatment plant capacity above the 25-mgd average flow and 50-mgd peak flow that are being considered in the SEIS. Although expansion of the SBIWTP is not anticipated at this time, expandability was identified by the public as an additional criterion to be considered for the selection of the Preferred Alternative, the CMA Ponds at the Hofer Site. Public concern about this issue is discussed in the DSEIS in the Executive Summary and Appendix G6. Expandability was defined as the ability of an alternative to expand its capacity beyond an average 25-mgd, dry-weather flow to an average 50-mgd, dry-weather flow, while still fitting within the original footprint of the SBIWTP and Hofer sites (see Appendix G6 of the DSEIS).

4.2.1.3 Specific Public Concerns

As noted in Appendix G6, all of the alternatives have the capacity to expand to a 50-mgd, dry-weather flow, with the additional facilities fitting onto these two sites. The details for expansion would be different for each alternative.

The majority of the public comments on expandability focused on the issue of possible expansion and the ability or inability of the CMA Ponds at the Hofer Site to accommodate future expansion. Expansion of the secondary treatment capacity for the CMA Ponds at the Hofer Site would require the construction of additional facilities to increase the secondary treatment capacity to 50 mgd without expanding beyond the two original sites. Although conservative estimates indicate that a portion of the CMA ponds would need to be removed to produce a facility that has the capacity to treat 50 mgd, additional engineering analysis would be required to evaluate the expansion alternatives. There are several feasible ways, however, to combine pond and other secondary treatment processes. The CMA Ponds at the Hofer Site Alternative would not prevent expansion, even though the relative costs of future "what if" alternatives are not known and are not within the scope of this document.

Several comments raised the appropriateness of siting additional wastewater treatment facilities in the Tijuana Valley. There are two alternatives that would require construction of facilities on the Hofer site: (1) the Activated Sludge with Expanded Capacity and (2) the CMA Ponds at the Hofer Site. The Hofer site is located between the SBIWTP site and the site of the two wastewater treatment plants being designed and constructed by the City of San Diego (i.e., the South Bay Water Reclamation Plant [SBWRP] and South Bay Wastewater Treatment Plant [SBWTP]). The wastewater facilities of the City of San Diego and the existing SBIWTP will consume larger land areas than the Hofer site. Because the Hofer site is located between these facilities, an appropriate and compatible land use for the Hofer site is wastewater treatment. The use of the Hofer site for either of the SEIS alternatives would not increase the amount of land zoned for wastewater treatment facilities. This site was discussed in the 1994 Final EIS.

4.2.2 General Response 2—SBIWTP Performance and Industrial Pretreatment in Tijuana

This General Response is a summary of the operating performance of the SBIWTP, the results of the toxicity sampling conducted at the SBIWTP, and the impacts of the alternatives to the marine environment (as discussed in the DSEIS). Since the DSEIS was released for public review in January 1998, progress has also been made on the implementation of the pretreatment program. Section 3.1.2 of this FSEIS discusses in detail the status of the pretreatment program in Tijuana for industrial waste.

4.2.2.1 Operating Performance of the SBIWTP

Many comments from the public questioned the treatment performance of the advanced primary SBIWTP as a result of the toxicity testing conducted in 1997. This General Response is provided to assist in understanding the purpose of the treatment processes at the SBIWTP. Given the treatment objectives for advanced primary treatment, which are discussed below, the SBIWTP is performing as intended.

It is important to note that wastewater treatment plants are designed to treat human biological wastes. The type of treatment that occurs in a primary treatment plant is the removal of settleable solids (mostly human waste solids) and floatable materials (oil, grease, plastics). In conventional primary treatment, about 50 to 65 percent of the suspended solids are removed. In the advanced primary SBIWTP, the removal efficiency was about 79 percent in 1997 and 77 percent in 1998, which is above the level specified in the NPDES permit. The solids that are removed are composed of the heaviest fraction of solids such as sand and grit and the intermediate-weight solids. The latter are human waste particles. Some industrial wastes and pathogens are also removed because they are in solid form or are attached to the human waste particles. Because the Tijuana sewer system receives some inflow of urban stormwater, some of the solids removed in the advanced primary SBIWTP originate from the streets of Tijuana (e.g., rubber tire particles and exhaust particles). Biological treatment (e.g., activated sludge and pond treatment technologies) is an effective way in which to remove small solids and dissolved materials that are not removed in advanced primary treatment.

4.2.2.2 Results of Toxicity Testing

Numerous commentors used the terms "toxicity" and "toxic spikes" interchangeably in the context of the results of the testing conducted at the SBIWTP during 1997. This response clarifies the difference between the two terms, reviews their implications on the treatment processes, and describes the current situation at the SBIWTP.

Definitions

Toxicity is a laboratory measure of the adverse effects to sensitive test organisms exposed to treated effluent from the SBIWTP. Acute and chronic toxicity testing are used to estimate the aggregate toxic effect of an effluent using standardized, freshwater surrogate vertebrates or invertebrates. The effects can be acute (lethal at specified concentrations) or chronic (sublethal, such as reduced growth and reproduction). Toxicity is caused by the presence of compounds in the wastewater that, in high concentrations, act as toxic stressors to the test organisms.

The term "toxic spike" describes the appearance of a brief, unusually high and toxic concentration of a compound that can cause temporary impacts to biological treatment processes (see Section 3.1.3 of the DSEIS).

Potential Impacts

Toxicity in wastewater could be reduced by the treatment processes at the SBIWTP. On the other hand, certain treatment processes at the SBIWTP could be negatively affected by toxic spikes in the wastewater.

Specifically, the advanced primary treatment plant could partially reduce toxicity with the removal of settleable and some colloidal solids, although this is not generally effective to adequately reduce the toxic concentration to meet regulatory standards. The residual toxicity could pass through the process and be present in the effluent, possibly causing the acute and chronic effects discussed above. Toxic spikes, however, will not upset the advanced primary treatment process because the process is not biological (i.e., it does not involve the use of micro-organisms to degrade the waste). The advanced primary process is

a physical process that allows the solids to settle with the assistance of chemicals (that enhance settling).

Biological (secondary) treatment processes, such as activated sludge and pond systems, have the ability to further reduce toxicity in wastewater through the additional removal of toxic compounds. Toxic spikes of sufficient strength and duration, however, could disrupt the biological treatment process by killing the beneficial microbial bacteria that are used to remove wastes. Such circumstances could result in reduced treatment ability for days or weeks. During such time, the secondary process might not adequately treat the effluent.

The degree to which toxic spikes affect a secondary treatment process is partially determined by the hydraulic buffering capacity and the amount of the biomass of the process basins. The larger the volume of liquid in the process basins or ponds, the greater the capacity of the system to dilute temporary toxicity (toxic spikes) to a level that will neither harm the biological process nor be present in the effluent at a toxic concentration. In addition, the greater the biomass, the greater the capacity of the secondary treatment system to absorb or metabolize toxic compounds.

Current Situation

Chronic and acute toxicity testing, as well as testing for other constituents, is conducted on effluent from the SBIWTP in accordance with the NPDES permit requirements. During the preparation and review period for the DSEIS, the SBIWTP operated on an intermittent basis, and the plant influent and effluent were monitored. Advanced primary effluent from the SBIWTP was tested (5 months in 1997 and 5 months in 1998) for the parameters of the NPDES permit, including the Table B compounds of the California Ocean Plan. (See Chapter 3, Section 3.1.2.2 of the FSEIS for a more detailed discussion of the acute toxicity testing conducted and the actions being implemented to address the sampling results.) During the 10 months of testing, the SBIWTP exceeded the acute toxicity limits.

The USIBWC is investigating the cause of the acute toxicity through the implementation of a multi-step process called a toxicity identification evaluation (TIE). This process was initiated soon after the toxicity results demonstrated a pattern that merited an investigation. This laboratory investigation is described in Section 3.1.2.2 of the FSEIS, which is an update to Appendix A2 of the DSEIS. The Executive Summary of the TIE is included as Appendix K of this FSEIS. After the cause of the toxicity is identified, pretreatment efforts in Mexico will focus on minimizing the toxic compounds.

4.2.2.3 DSEIS Findings on Impacts to the Marine Environment

The ocean model prepared for the 1994 FEIS was revised in the DSEIS to include an evaluation of the alternatives considered in this SEIS (see Appendix C of the DSEIS). An ecological risk assessment was also prepared to assess the potential risk to aquatic life by the effluent streams from each of the alternatives (see Appendix D of the DSEIS). The ocean model and the ecological risk assessment predicted the impacts from each of the constituents found in the 1995 and 1996 Emergency Connection monitoring data for which there was a standard regulation (i.e., the Ocean Plan or the EPA chronic and acute criteria for the protection of marine aquatic life; see Table D-4, Appendix D of the DSEIS). Ocean modeling was not conducted for acute or chronic toxicity because toxicity is a response by aquatic life and is not a discrete constituent in the effluent. The constituents and standards

are listed in several tables in Sections 5 and 6 of Appendix C and in several tables in Section 3 of Appendix D of the DSEIS. The Emergency Connection data set is considered the most representative data set of wastewater generated in Tijuana that flowed into the United States for treatment in 1995 and 1996. To perform the ocean modeling and ecological risk assessment for future flows that would be treated at the SBIWTP, the effluent concentrations were predicted in the headworks analyses for each of those toxic constituents (Malcolm Pirnie, 1997).

Based on the results of the ocean model and the ecological risk assessment, the potential risk of injury to the marine environment and human health from the SBIWTP discharge is not significant for any of the full-secondary treatment alternatives. The ocean model considered discharges of toxic compounds and pathogens and predicted their concentrations at all of the monitoring stations shown in Figure 6.1 of Appendix C of the DSEIS. These stations included areas where people come in contact with the ocean (i.e., kelp beds, the surf zone, and beaches). The model accounted for ocean currents when predicting the concentrations and locations of toxic compounds and pathogens. Toxic compounds were not predicted to be a risk for the marine environment beyond the zone of initial dilution, except copper for the Advanced Primary Alternative and DDT for the Advanced Primary and Partial Secondary Alternatives (see Section 7.5 of Appendix C of the DSEIS). Neither of these alternatives was selected as the Preferred Alternative. Toxic compounds were not predicted to be a risk for humans in any parts of the ocean where humans would be present (see Section 7.5 of Appendix C of the DSEIS).

Section 6.2 and Tables 6.4A through 6.5P of Appendix C of the DSEIS reported the monitoring points where concentrations of pathogens were predicted to occur, including the ocean depths, months of the year, and at what probability levels. None of the surf zone and beach stations were predicted to be impacted by pathogens for any of the alternatives. Only two kelp bed stations were predicted to be impacted by pathogens as a result of discharge of wastewater from the SBOO, and these impacts would not occur from any of the full-secondary treatment alternatives (see Sections 6.2 and 7.1 of Appendix C and Section 3.1.3 of DSEIS).

4.2.3 General Response 3—Odor

Several commentors raised concern that the pond treatment alternatives would have more odors than the activated sludge alternatives. Odor measurements collected from the advanced primary SBIWTP and wastewater pond treatment system of the Coachella Valley Water District Mid-Valley Water Reclamation Plant (WRP No. 4) were used to model potential odors from advanced primary, activated sludge, and pond alternatives (see Appendix B6.2 of the DSEIS). Because the Coachella plant has no other treatment processes onsite that could influence the odor testing, it was an appropriate site for evaluating odor generation for the CMA treatment process. This odor analysis found that nuisance-level odors would not be produced under normal operation for any of the treatment processes that were evaluated. Of the less-than-significant odors produced by the alternatives, the pond alternatives are predicted to produce fewer odors than the activated sludge alternatives.

Odors from the SBIWTP alternatives can occur for a variety of reasons. The most frequent cause of odors is from the daily treatment of raw wastewater. Some of the strongest odors

are generated from the headworks of wastewater treatment plants because that is where the raw wastewater enters the plant. For each of the alternatives considered in the DSEIS, the odors from the headworks would be the same. As the wastewater passes through successive processes in the plant, the odors lessen as the wastewater receives more treatment. Under normal operating conditions, wastewater in a secondary process does not generally produce nuisance odors during normal operating conditions.

Sludge handling can also be a source of odors. Except for the sludge produced by pond alternatives, which is already stabilized, the daily sludge produced as a result of the alternatives considered in the DSEIS would be handled using the same process. The Advanced Primary alternative would produce the least amount of sludge to be handled, and the Activated Sludge with Expanded Capacity would produce the most daily sludge. The AIPS at Spooner's Mesa and the CMA Ponds at the Hofer Site Alternatives will produce slightly less daily sludge than the Advanced Primary alternative, but both will produce an additional, relatively small amount of sludge that would occur on an annual basis. Potential odor sources were examined during the development of each alternative. Engineering measures were incorporated into the design of each alternative to prevent nuisance odors from occurring. In the DSEIS, the potential for odors was modeled for normal operating conditions for each alternative except the AIPS at Spooner's Mesa Alternative. The results are described in Appendix B6.2 of the DSEIS. The modeling predicted that nuisance-level odors would not be produced under normal operation for any of the treatment processes that were evaluated.

The impact by odors is further discussed in Section 3.9 of the DSEIS. This discussion includes potential odors generated under circumstances where toxic loads enter the plant. If the secondary processes become upset and the beneficial bacteria are temporarily decimated, nuisance odors could occur. The likelihood for this to occur is higher for the activated sludge alternatives than for the pond alternatives. The large volume of water and the large biomass of the pond systems acts as a buffer to protect the beneficial bacteria to maintain normal operations.

4.3 Responses to Agencies' Comments

A1. California Coastal Commission

A1-1. The lead agencies, EPA and USIBWC, submitted a Preliminary Coastal Consistency Determination (Determination) to the California Coastal Commission on May 22, 1998. Subsequent to the submittal of the Preliminary Determination, a Final Determination was submitted in December 18, 1998. The Determination is being reviewed by the Commission and will be discussed in the Record of Decision for this SEIS.

A-2. Centers for Disease Control and Prevention, Department of Health and Human Services

A2-1. Public health impacts have been a key concern in selecting a Preferred Alternative in the FSEIS. The Preferred Alternative, which is the Completely Mixed Aerated Pond System at the Hofer Site, is discussed in Section 1.3 of the FSEIS. This section presents the lead agencies' rationale for selecting this alternative. Public health and safety impacts are also discussed in Chapter 3 of the DSEIS.

A2-2. The United States Government is continuing to work closely with the Mexican Government on the issue of disposal in Mexico of sludge from the SBIWTP. The Mexican Government prepared a study that addresses sludge disposal locations in Mexico. Preliminary Information from the Draft Phase II study was released to the lead agencies from Mexico in April 1998. This study provides an overview of disposal sites and their environmental impacts. The final Phase II study addresses the environmental impacts of the selected disposal option. The content of this report is summarized in Section 3.1.4 of the FSEIS and is included in Appendix M of this SEIS.

A2-3. As requested by the commentor, a copy of the FSEIS will be sent to the Centers for Disease Control, Department of Health and Human Services.

A3. City of Imperial Beach

A3-1. Comment acknowledged. The Preferred Alternative (CMA Ponds at the Hofer Site) is discussed in Section 1.3 of the FSEIS. The Preferred Alternative is predicted to meet the water quality requirements of the Ocean Plan and the NPDES permit. In recognition of the important role of the City of Imperial Beach, a representative of the city has been invited to serve as a member of the Policy Committee.

A3-2. The lead agencies made a presentation on the findings of the DSEIS to the City Council of Imperial Beach on March 4, 1998. The commentor's preference for a secondary treatment alternative is acknowledged. The lead agencies selected the CMA Ponds at the Hofer Site as the Preferred Alternative. See Section 1.3 of the FSEIS for a discussion of the rationale for selecting this alternative.

A3-3. The lead agencies agree that a secondary treatment alternative is the Preferred Alternative for protection of the environment. See Section 1.3 of the FSEIS for a discussion of the rationale for selecting the CMA Ponds at the Hofer Site Alternative.

A3-4. The commentor's preference for a secondary treatment alternative is acknowledged. The lead agencies selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. See General Response 3 for a discussion of odor impacts. Also see Section 3.9 and Appendix B6.2 of the DSEIS for the summary and analysis of odor impacts.

A3-5. The lead agencies considered all the findings of the DSEIS and FSEIS in selection of the Preferred Alternative. After careful consideration of the analyses and of public comments, the lead agencies selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The lead agencies and the governments of the United States and Mexico support the commentor's desire to build the wastewater treatment alternative as quickly as possible. The CMA Ponds at the Hofer Site is the most expeditious alternative to build once the environmental review process is complete.

A3-6. The lead agencies selected CMA Ponds at the Hofer Site as the Preferred Alternative. All the alternatives evaluated in the SEIS were assessed for potential impacts to water quality. All the secondary treatment alternatives meet California Ocean Plan and NPDES requirements. The analyses of water quality impacts are contained in Appendices B and C of the DSEIS and are summarized in Section 3.1 of the DSEIS.

A3-7. The City of San Diego has stated that the Emergency Connection will no longer be available after the SBOO is operational (with the exception of emergency conditions). The CMA Ponds (the Preferred Alternative, see Section 1.3 of the FSEIS) is anticipated to address acute toxicity. Also see Chapter 3 of the FSEIS. The Interim Operation SEIS was prepared to address ways in which to discharge effluent flows from the SBIWTP in the interim period before the South Bay Ocean Outfall and secondary facilities were completed. The construction of the SBOO was completed in January 1999 and the outfall is operational. Wastewater that is currently diverted to the City of San Diego's Point Loma Wastewater Treatment Plant is planned to be converted through the SBOO for ocean discharge. The SBIWTP will be operated to conform to the water quality requirements of the Ocean Plan and the conditions set forth in the RWQCB's permit requirements.

A3-8. The Preferred Alternative, CMA Ponds at the Hofer Site, was selected by the lead agencies (see Section 1.3 of the FSEIS). The DSEIS, FSEIS, and the Administrative Record represent the Technical Group's findings.

A3-9. After the FSEIS is published, the public will have 30 days to provide comments to the lead agencies.

A3-10. As discussed in Section 3.8 of the DSEIS, no significant visual impacts would result from implementing the Preferred Alternative. Additional visual control measures, however, will be considered during the design of the CMA Ponds to accommodate public concerns.

A3-11. The issue of expandability is discussed in General Response 1. Please refer to that response for a detailed discussion on expandability. Also see Section 1.3, Preferred Alternative, in the FSEIS.

A3-12. The issue of sludge disposal is addressed in Chapter 3 of the FSEIS and in Response to Comment A2-2.

A3-13. As noted in Section 3.10, Geology, of the DSEIS, the geological impacts of implementing the alternatives evaluated in the SEIS are the same or less than the geological impacts (including slope stability) identified in the 1994 FEIS. Mitigation measures identified in the 1994 FEIS were incorporated into the design and construction of the SBIWTP and reduced impacts to a level below significance.

A3-14. Funds have been appropriated by Congress to EPA that may be available for construction of the CMA Pond alternative. The lead agencies are currently seeking Congressional support on using these funds to implement this alternative.

A3-15. The lead agencies agree that a pretreatment program for wastewater originating in Mexico is an integral component of an effective strategy for treating influent at the SBIWTP. See General Response 2 and Section 3.1.2 of the FSEIS.

A3-16. The lead agencies appreciate the concerns raised by the City of Imperial Beach regarding representation in the decisionmaking process. Both the USIBWC and the EPA encourage the City's involvement in the process and recognize that the City's involvement has contributed to a broader understanding of how continued beach closures and water quality impacts affect the residents of Imperial Beach on a daily basis. The lead agencies and the Policy Committee members are aware of the fiscal, recreational, public health and safety, and aesthetic impacts associated with the historic discharge of raw wastewater from Tijuana and the effects this has on Imperial Beach residents. The preparation of this FSEIS is intended to address these concerns directly by identifying the alternative that is most protective of the concerns raised by the City of Imperial Beach and other concerned parties. Throughout the preparation of the SEIS, the lead agencies have met frequently with the public, including representatives from Imperial Beach, to identify concerns and impacts for discussion in the SEIS. In recognition of the City's strong commitment to finding a workable solution, a representative from the City has been invited to join the Policy Committee.

A4. City of San Diego, Land Development Review Division, Water Utilities Section

A4-1. Comment acknowledged.

A5. City of San Diego, Metropolitan Wastewater Department, Public Works

A5-1. The commentor's request for the lead agencies to select the Advanced Primary Only Alternative is noted. The lead agencies acknowledge the City of San Diego's active participation in border environmental policy decisions, including serving as a representative on the Policy Committee for the SEIS for the Long Term Treatment Options, and agree that environmental pollution resulting from wastewater originating in Mexico poses a health threat to the San Diego region. We further agree that the solution to this long-standing concern is both complex and dynamic. After a thorough review of the impacts associated with all the alternatives presented in the SEIS, the lead agencies have identified the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see General Response 1 for a discussion of expandability.

A5-2. The lead agencies agree with the comment, and the USIBWC is currently pursuing acquisition of the Hofer property located adjacent to the existing SBIWTP. See General Response 1 for a discussion of expandability.

A5-3. The purpose and need of the SEIS is discussed in Section 1.4 of the DSEIS. There are currently no plans to expand the capacity of the SBIWTP. The lead agencies agree with the comment, and EPA has obtained additional construction funding for the CMA Ponds at the SBIWTP (See Response to Comment A3-14).

A5-4. The lead agencies selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The lead agencies are committed to secondary treatment and will comply with the monitoring requirements of the NPDES permit.

A5-5. The lead agencies selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The lead agencies rejected the AIPS at Spooner's Mesa alternative. The commentor's opposition to the aesthetics of the CMA and AIPS Ponds alternatives is acknowledged. The scenic and visual impacts of the ponds alternatives, as discussed in Section 3.8.2.3 of the DSEIS, were not found to be significant because: (1) the elevation extension would match that of the existing SBIWTP (for CMA ponds), and (2) additional fencing would further shield the area (for CMA ponds). The issue of expandability is discussed in General Response 1.

A5-6. See General Response 2 and Section 3.1.2 of the FSEIS for a discussion of pretreatment and acute toxicity.

A5-7. The lead agencies agree that a pretreatment program is vital to the implementation of any alternative considered in the SEIS. A secondary headworks analysis will be conducted on the Preferred Alternative to determine whether the influent will affect sludge quality, effluent quality, and worker safety. It will also determine compliance with applicable United States and Mexican regulations. See General Response 2 and Chapter 3 of the FSEIS for a discussion of pretreatment and acute toxicity.

A5-8. See General Response 1. Also see Response to Comment A5-7.

A5-9. See Responses to Comments A5-1 through A5-8, above.

A6. County of San Diego, Department of Environmental Health

A6-1. The lead agencies have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. This alternative does not increase the public health risk associated with recreational use of coastal waters or increase potential problems associated with mosquito breeding (see Sections 3.7 and 3.8 of the DSEIS).

A7. California Department of Fish and Game

A7-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

A7-2. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the

FSEIS. In reference to consultation with California Department of Fish and Game (CDFG), interagency communication resulted in the following agreement (Personal communication, Elizabeth Borowiec, EPA, with Bill Paznokas, California Department of Fish and Game, April 28, 1998):

1. No independent consultation is needed for any terrestrial and/or riparian habitat impacts associated with the ponds at the Hofer site. CDFG visited the SBIWTP and Hofer site on April 27, 1998, and concurs with the lead agencies that the CMA ponds at the Hofer site would not provide habitat for sensitive species.
2. The CDFG will be invited to any consultation that occurs with the USFWS regarding possible avian use of the ponds at the Hofer Site to ensure that all concerns are covered for state listed endangered species. CDFG is not concerned about any facilities associated with the activated sludge system.
3. The FSEIS will include additional measures for discouraging the use of ponds by birds. (See Chapter 3 of the FSEIS for the additional mitigation.) Also see Response to Comment A11-17.

A7-3. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

The commentor's opposition to the Spooner's Mesa Alternative is acknowledged. Based on consideration of public comments, including those of CDFG, the Spooner's Mesa AIPS Alternative was not selected as the Preferred Alternative (see Section 1.3 of the FSEIS for a discussion of the Preferred Alternative). In reference to the comment on the CMA ponds at the Hofer site, the potential loss of habitat for terrestrial biological resources is discussed in Appendix D, Ecological Risk Assessment, and in Section 3.2.4 of the DSEIS. Implementing the CMA alternative is not expected to result in loss of terrestrial and/or riparian habitat at the Hofer site because that land has been previously disturbed by commercial uses. In addition, no special-status plant species were identified on the Hofer property. The DSEIS finds that no adverse effects on wildlife are expected because of the proximity of the site to open space, the lack of native habitat, and the level of existing disturbance at the site.

In reference to the concern about water quality and sediments in the ponds, no significant impacts are expected for the following reasons: (1) the analysis conducted for Appendix D finds that the turbulent aeration of the CMA system at the Hofer site will effectively exclude its use by birds (see Section 2.1.2 of Appendix D) and (2) in addition to the highly agitated water at the CMA ponds that would discourage use by birds, the CMA ponds would be constructed with steep-sided embankments that would discourage use by birds. The potential for attracting shore birds does exist for the final series of settling ponds at the Spooner's Mesa AIPS Alternative, but this alternative was not selected as the Preferred Alternative (see Section 1.3 of the FSEIS). Also see Response to Comment A7-2 and Chapter 3 of the FSEIS for the additional mitigation measures associated with possible avian use of the CMA ponds at the Hofer site.

A7-4. The commentor's opposition to the SBIWTP with Less than Full Secondary Treatment alternatives is acknowledged. Neither of these alternatives was selected as the Preferred Alternative. The lead agencies have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

A7-5. The lead agencies share the commentor's concern about waste minimization and industrial pretreatment of wastewater. The agencies are continuing to work with Mexico on pretreatment and waste minimization programs (See Section 3.1.2 of the FSEIS). The discharge of wastewater through the SBOO will not exceed the NPDES permit conditions of 25 mgd average flow.

A8. County of San Diego, Department of Parks and Recreation

A8-1. The land use conflicts identified by the commentor are discussed in Section 3.4, Land Use, of the DSEIS. On the basis of a review of these conflicts, the Spooner's Mesa AIPS Alternative was not selected as the Preferred Alternative. The CMA Ponds at the Hofer Site, which is discussed in Section 1.3 of the FSEIS, is the Preferred Alternative.

A8-2. The Spooner's Mesa AIPS Alternative was not selected as the Preferred Alternative. See Response to Comment A8-1.

A8-3. The Preferred Alternative is the CMA Ponds at the Hofer Site. On the basis of Minute 283 (see Section 1.2.3 and Appendix A of the DSEIS), Mexico retains the right to reuse the treated effluent from wastewater generated by Mexico. Currently, the lead agencies are unaware of proposals to use the water discharge from the ponds for wetlands restoration projects.

A9. Congressman Bob Filner

A9-1. The lead agencies acknowledge Congressman Filner's continued support of the Bajagua proposal. Since 1997, Congressman Filner and the lead agencies have been exchanging correspondence regarding this issue. Most recently, EPA and USIBWC participated in a public meeting on November 13, 1998, concerning the Bajagua proposal that was sponsored by Congressman Filner. At that meeting and in resulting correspondence, the lead agencies have restated their reasons for not considering the Bajagua proposal to be a feasible alternative to be considered in the SEIS. The lead agencies, however, have suggested to both Congressman Filner and the project sponsors that a parallel path be taken to develop the Bajagua proposal (see Appendix N of this FSEIS) while the lead agencies complete the SEIS process and proceed with planning and design activities to implement the ROD. Completion of this SEIS would not preclude the Bajagua project from being considered in the future, should it become a feasible alternative. (See Response B1-1 and Appendix N of this FSEIS.)

A9-2. In order to determine whether the Bajagua project offers the best environmental alternative, an environmental information document, prepared by Agua Clara, will need to be reviewed and evaluated. Although, the lead agencies support the beneficial use of the reclaimed water in the Tijuana/San Diego region, support for the implementation of this project has not been expressed by the Mexican government. See Response B-7.

A9-3. Although Agua Clara proposes private funding for construction of the Bajagua project, Agua Clara is seeking reimbursement from the U.S. government for all construction costs and for operation and maintenance costs over a 50 year period. See Response to Comment B1-1 and B1-7 for further discussion regarding the Bajagua proposal.

A9-4. Funds have been appropriated by the U.S. Congress to EPA to construct wastewater infrastructure along the border. The lead agencies are currently seeking Congressional

support for using these already appropriated funds to implement the CMA ponds alternative.

A9-5. See Response B1-1.

A9-6. If the Bajagua proposal were included as an option in the SEIS, it is estimated that there would be a delay of at least 16 months and likely much longer. To include the Bajagua project in the SEIS, the lead agencies would have to rescope the SEIS to examine projects in Mexico and develop a new draft SEIS. As described in Response B1-1, Agua Clara must obtain new legislation from Congress addressing funding and contracting issues in order to be considered as a feasible alternative. Agua Clara must also obtain, at a minimum, written approval from MxIBWC of Mexico's interest in renegotiating Treaty Minute 283. In addition, Agua Clara would have to complete the development of the Bajagua project, which currently remains conceptual.

A10. Federal Emergency Management Agency

A10-1. The commentor is correct that a review of the Flood Insurance Rate map, parcel number 2166, shows that portions of the Hofer site is designated as a special flood hazard area. Facilities to be constructed in association with this Preferred Alternative are presented in Section 1.5.3 of the DSEIS. The specifications cited in the comment letter regarding appropriate analyses that must be conducted prior to construction are incorporated by reference into the FSEIS. This analysis has been completed for the entire SBIWTP site, including the Hofer property, which is the location of the CMA Ponds (the Preferred Alternative).

A11. United States Fish and Wildlife Service

A11-1. The wildlife species noted in the USFWS comment letter are also discussed in Section 2.2.2.3 and listed in Table 2.2-1 of the DSEIS. (Also see Appendix H for correspondence on the issues discussed in the USFWS comment letter.) The commentor's preference for the CMA ponds alternative is acknowledged. The lead agencies have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The location and disposal techniques of the sludge generated by the Preferred Alternative are discussed in the sludge report prepared by Mexico. See Chapter 3 of the FSEIS for further information on the status of sludge disposal in Mexico.

A11-2. The commentor's opposition to the AIPS at Spooner's Mesa Alternative is acknowledged. This alternatives was not selected as the Preferred Alternative (see Section 1.3 of the FSEIS for a discussion of CMA Ponds at the Hofer Site, the Preferred Alternative. Also see Response to Comment A8-1.

A11-3. The commentor's opposition to the Advanced Primary Only and the Partial Secondary Treatment alternatives is acknowledged. These alternatives were not selected as the Preferred Alternative (see Section 1.3 of the FSEIS for a discussion of CMA Ponds at the Hofer Site the Preferred Alternative).

A11-4. See Response to Comment A11-8. The commentor's opposition to the Activated Sludge/No Action, the Activated Sludge with Flow Equalization Basin, and the Activated Sludge with Expanded Capacity alternatives is acknowledged. The lead agencies have

selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

The 1994 FEIS identified PAH discharges from San Antonio de los Buenos as a significant impact. Subsequent to the preparation of the FEIS, operation of the SBIWTP resulted in 10 months of data on wastewater influent. On the basis of 10 months of data from the SBIWTP, no PAH exceedances have occurred and no PAHs are predicted to be discharged through the SBOO. There would be no impact from PAHs identified with the discharges from any of the SEIS alternatives. This impact would apply for all of the alternatives because the wastewater flows to the surf in Mexico would be the same for all alternatives (see Section 3.1.3 of the DSEIS).

A11-5. On May 13, 1998, EPA and USIBWC met with USFWS to address the issues raised in the USFWS comment letter. As a result of that meeting, all concerns raised by the USFWS (with two exceptions) were resolved. The outstanding issues were: (1) possible effects in near shore marine waters on fish that are preyed upon by the California least tern and the California brown pelican and (2) possible indirect impacts on the least Bell's vireo as a result of construction noise associated with the CMA Ponds Alternative. These two issues were addressed in correspondence exchanged by the lead agencies and the USFWS (see Appendix H of the FSEIS). The USFWS concurs with the resolution of these two outstanding concerns.

A11-6. The additional information on the nesting colonies of the California least terns is incorporated by reference into the FSEIS as a supplement to Section 2.2.2.3, Marine Birds, in the DSEIS.

A11-7. Although the use of one-half of the detection limit is frequently used as the assumed concentration of nondetected compounds, this approach is not consistent with the Ocean Plan definitions for analyzing discharges; therefore, the laboratory detection limit was used for the group parameters. For this reason, additional information was provided to explain that only a few of the compounds within each group parameter were actually detected; and that the sum of these individual compounds in fact did not exceed the discharge limits (see Section 3.1.3.2, Water Quality Impacts, of the DSEIS).

A11-8. All of the alternatives will reduce flows that are discharged at San Antonio de los Buenos and will improve the quality of discharges to the ocean. All of the activated sludge treatment alternatives except the No Action Alternative will accept peak flows at the SBIWTP. At flows less than 75 mgd (where the peak capacity of 50 mgd at the conveyance canal to the San Antonio de los Buenos Wastewater Treatment Plant), the impacts to the surf in Mexico would be the same for all the activated sludge alternatives and the No Action Alternative. This would be the case if all the peaks are diverted to San Antonio de los Buenos. If the peaks are diverted to the SBIWTP (which cannot occur under the No Action Alternative), then the impact to the surf in Mexico would be less if the other activated sludge alternatives are implemented. The Mexican government is currently constructing the parallel conveyance canal and is increasing the capacity of pump stations. These actions will increase the conveyance system capacity to avoid spills of excess wastewater.

A11-9. See Response to Comment A11-8.

A11-10. The lead agencies selected CMA Ponds at the Hofer Site as the Preferred Alternative (see Section 1.3 of this FSEIS).

A11-11. The commentor's opposition to the AIPS at Spooner's Mesa Alternative is acknowledged. The lead agencies have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

A11-12. The lead agencies agree with the comment that sludge disposal should be conducted in a manner that avoids impacts to wetlands and other sensitive habitats that have the potential to support federally listed species. As discussed in the DSEIS, the potential impacts associated with sludge disposal at the SBIWTP are limited to workers during the processing and loading of the sludge onto trucks for transport. After mitigation measures are implemented (e.g., emergency disinfection and notification, preparation of a Risk Management Plan, training of personnel, and required use of protective gear), no significant impacts would occur. See Response to Comment A2-2. Continued cooperation between the United States and Mexico will occur on this issue. Also see Section 3.7 and Appendix B3 of the DSEIS. A final Phase II report on sludge disposal sites in Mexico has been prepared by the Mexican government (see Section 3.1.4 and Appendix M of the FSEIS).

A11-13. The comment on the Monitoring and Reporting Program 96-50 of the NPDES permit is acknowledged.

A11-14. Additional sampling will be conducted in accordance with the existing NPDES permit. Specifically, the following sampling schedule will be followed: carbon disulfide—weekly for 6 months; methyl ethyl ketone—monthly, TRPH—quarterly; sludge monitoring (Title 22 CCR, 40 CFR 503, Section 307a CWA)—semiannually (quarters 1 and 3); and sludge monitoring (Class I and II pollutants)—semiannually (Quarters 2 and 4).

A11-15. The text of the DSEIS in Appendix B5 has been changed in the FSEIS regarding the cost of the modified system and the cost differential.

A11-16. The AIPS at Spooner's Mesa Alternative was not selected as the Preferred Alternative; therefore, further analysis of impacts resulting from implementing that alternative has not been conducted. The lead agencies have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

A11-17. The lead agencies agree that the measures outlined in Appendix D should adequately control outbreaks of avian botulism and avian cholera. The lead agencies intend, if appropriate, to implement the design measures specified in Appendix D (page D-23), including constant hydraulic flushing of the ponds (average of 3 days hydraulic residence time) and inducing mechanical agitation of surface water to inhibit birds from landing and resting on the water. These measures, in addition to limited and temporary use by birds and carcass removal, are anticipated to prevent the possibility of disease outbreak in bird populations using the ponds. These measures will be implemented as quickly as possible. In response to concerns raised by the CDFG (see Comment A7-2) and in this comment, the FSEIS includes additional measures to discourage avian use of the ponds (see Chapter 3 of the FSEIS). Also see Response to Comment A7-2.

A12. United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service

A12-1. The commentor's preference for the AIPS at Spooner's Mesa Alternative is acknowledged. This alternative, however, was not selected by the lead agencies as the Preferred Alternative because ponds at Spooner's Mesa would conflict with the County of San Diego's approved plans to purchase the area for natural lands management within the Tijuana River Valley Regional Park. The County of San Diego has already purchased portions of this land and conversion of this site from park land to use for wastewater treatment would require action by the California State Legislature. Also see Comment A-8 from the County of San Diego Department of Parks and Recreation and Section 3.4.4.2 of the DSEIS. The lead agencies have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

A12-2. The comment about pending changes to the Magnuson-Stevens Act that require consultation with the National Marine Fisheries Service about the essential fish habitat of federally managed species is acknowledged.

A13. Congressman Brian Bilbray

A13-1. See Response to Comment A-9.

A14. Leucadia County Water District

A14-1. The commentor's preference for the CMA Ponds at the Hofer Site Alternative is acknowledged. This alternative has been selected as the Preferred Alternative. See Section 1.3 of the FSEIS for a discussion of the Preferred Alternative and the reasons for its selection.

A15. Tia Juana Valley County Water District

A15-1. The lead agencies have welcomed and encouraged public involvement in the process of preparing the Draft and FSEIS for Long Term Treatment Options. As noted in the comment, regular meetings are conducted with a Focus Group whose members comprise agencies, environmental organizations, and the general public. Regular, monthly Focus Group meetings have been held during the preparation of the DSEIS and the FSEIS and special workshops and presentations have been conducted to provide information to the public about the alternatives considered in the SEIS (see Section 1.5 of the DSEIS and Appendix I of the FSEIS). These presentations and workshops have included all the alternatives in the SEIS, not just the ponds alternatives (i.e., CMA Ponds at the Hofer Site and AIPS at Spooner's Mesa).

The lead agencies do not agree that "too much time and public funds" have been spent "in analyzing and developing the option of large sewage treatment ponds for secondary sewage treatment purposes." All the engineering technical reports prepared for the DSEIS (with the exception of Appendix B5, which is a modification to the Hofer Site alternative), assess the impacts associated with all of the alternatives discussed in Section 1.5 of the DSEIS—not just the ponds alternatives (see DSEIS, Volume II, Technical Appendices).

In reference to the comment that technical considerations associated with the ponds alternatives are not adequately addressed in the DSEIS, the commentor does not provide specific reference to any technical concerns.

The commentor states that the original schedule for completion of the DSEIS has been delayed for over a year (i.e., January 1997 versus January 1998). All schedule changes

associated with this SEIS have been discussed and coordinated with appropriate regulatory agencies. The NEPA process has not (and is not expected to) delayed construction of any secondary treatment alternative discussed in this SEIS.

The lead agencies disagree that the SEIS process has been a failure because a preferred alternative was not selected in the DSEIS. The lead agencies' decision not to identify a Preferred Alternative in the DSEIS is in conformance with Council on Environmental Quality regulations. The DSEIS states in Section 1.3 that additional review of the alternatives analyses would contribute to an informed selection of a Preferred Alternative. In addition, the lead agencies recognize that agencies, organizations, and other members of the public have expressed a preference for different alternatives considered in the SEIS. Because of the desire to incorporate additional public input into the selection process, the lead agencies conducted three workshops with the Focus Group members subsequent to the release of the DSEIS in January 1998. The intent of these workshops was to solicit the Focus Group members' detailed concerns about the criteria used to assess the alternatives and to obtain their preferences on alternatives. After additional review of the analyses and consideration of all comments received from the public, the lead agencies have determined that the Preferred Alternative for the Long Term Treatment Options SEIS is CMA Ponds at the Hofer Site, which is discussed in Section 1.3 of the FSEIS.

A15-2. The lead agencies do not agree with the comment that consideration of ponds treatment technology as an alternative in the SEIS constitutes “short-sided (*sic*) and extremely narrow focused decision making.” The ponds treatment technology has been included as an alternative because it was determined to be technically and economically viable and, therefore, merited evaluation comparable to that received by the activated sludge treatment alternatives. In reference to impacts to Mexico from ponds, the analyses conducted in the DSEIS concludes that the impacts from ponds would be comparable to or fewer than those from activated sludge (see Chapter 3 of the DSEIS). In reference to the historical summary of federal agency actions at the United States and Mexico border, these references are outside the scope of this SEIS.

A15-3. The lead agencies agree that the analyses conducted for the 1994 FEIS remain valid. The intent of the Interim Operation SEIS and the Long Term Treatment Options SEIS is to supplement the information in the 1994 SEIS, not to replace valid analyses. We disagree, however, with the statement made in the comment that the scientific analyses in the DSEIS are “largely hypothetical.” The commentor cites examples to support this statement, and these examples are addressed in Response to Comments A15-4 through A15-9, below.

A15-4. Pond treatment technology is recognized in the Clean Water Act as biological wastewater treatment that is equivalent to activated sludge secondary treatment (Code of Federal Regulations § 133.100-133.105). The pond treatment technologies considered in the DSEIS were analyzed thoroughly during the course of the DSEIS and were found to be technically sound and suitable for the specific conditions of this project (see Section 3.1.3.4 and Appendix B2 Section 2.4 of the DSEIS. See also Response to Comment A15-5.)

A15-5. The pond alternatives considered in the DSEIS (CMA and AIPS), like all treatment alternatives, are composed of several treatment processes in series. Each treatment process receives the effluent from the preceding process. There is flexibility in how treatment processes are combined; a variety of process sequences are successfully used to treat

wastewater. For example, primary ponds and primary sedimentation basins are successfully used to precede activated sludge treatment processes. Similarly, secondary ponds and activated sludge are used successfully following primary sedimentation basins. Within pond treatment processes, a large variety of process sequences are used. A traditional and well documented sequence of pond processes is an anaerobic pond followed by an aerobic pond. For the CMA Ponds at the Hofer Site Alternative, this approach is also used. To produce a less land-intensive anaerobic-aerobic sequence, the AIPS and CMA alternatives have a vertical sequence of processes rather than a horizontal sequence, which is attained by placing submerged anaerobic pits under the aerobic ponds. This is also a successful method for eliminating odors from anaerobic processes. The wastewater enters the bottom of the anaerobic pits and passes through the anaerobic process before entering the aerobic process. The anaerobic-aerobic approach is used extensively throughout the world in a variety of wastewater treatment technologies including upflow anaerobic sludge blanket reactors, activated sludge with biological nutrient removal, and sequencing batch reactors. Its use in the CMA Ponds at the Hofer Site Alternative is therefore an example of a treatment sequence that is both widespread and accepted engineering practice. While the anaerobic process is not strictly necessary for this alternative, the anaerobic pits were added to this alternative only after extensive analysis of the alternative without the anaerobic pits (see Phase II Ponds Study). The anaerobic pits provide improved treatment and reduce the cost and energy for mechanical aeration in the aerobic process that follows (see Appendix B5 of the DSEIS).

The scale of the ponds at the SBIWTP is an issue of acreage requirements but not of a performance issue. The land issue is addressed in General Response 1 and responses to other comments where this issue was raised (see Response to Comment B9-6). Regarding the scale from a technology perspective, the approach to scaling up for a large treatment plant is the same whether the technology that must be scaled up is primary sedimentation, activated sludge, or ponds. None of these technologies is scaled up by simply constructing larger basins or ponds. All of these technologies are scaled up by increasing the number of small basins or ponds. This approach is used because greater control of the process is possible by using small basins and ponds. Therefore, the application of pond technology for large wastewater flows is the same as for small wastewater flows. It should be noted that many developed countries use large pond treatment systems although other treatment processes are available. Pond treatment processes continue to be used because of their economy and their effectiveness in treating wastewater.

The same level of analysis was provided for all of the alternatives with regard to earthquakes and surrounding land uses (see Chapter 3 of the DSEIS). The planned land uses are not compatible with the AIPS at Spooner's Mesa Alternative (see Section 3.4.4 of the DSEIS). The land uses around the CMA Ponds at the Hofer Site Alternative are highly compatible with the treatment plants that operate or will operate to the east and west (see General Response 1). The land uses to the north and south are the same for the SBIWTP and the City of San Diego's two wastewater treatment plants, and therefore the same for the CMA Ponds at the Hofer Site Alternative that would be located between the other plants.

The suggestion that a pond alternative could fail because of periodic sludge scraping is unsubstantiated. The integrity of the bentonite layer is compromised during pond drying

and sludge removal; the bentonite will be repaired before the pond is refilled. The issue of the integrity of the pond liner is further addressed in the response to Comment A15-6.

A15-6. The protection of groundwater is a requirement for the construction and operation of all of the alternatives. Analysis of groundwater impacts was included in the 1994 FEIS and considered adequate. That analysis was incorporated into Section 3.1.2 of the DSEIS by reference. All of the alternatives have a barrier between the wastewater and the soil (i.e., concrete for the advanced primary and activated sludge facilities and bentonite clay for the pond alternatives). The bentonite clay barriers for the pond alternatives have been added to Section 1.5.3 of the DSEIS (see Chapter 3 of the Final SEIS). As currently conceived, all of the alternatives provide sufficient protection of groundwater. If additional protection measures are deemed necessary for a pond alternative by the lead agencies, a synthetic liner can be used in addition to the bentonite. For all of the alternatives, groundwater monitoring in the vicinity of the treatment basins or ponds can be added.

A15-7. The discussion of pretreatment in the DSEIS (see Section 3.1.2) states that Mexico, with the support of the California RWQCB, the State WRCB, and the City of San Diego, is instituting a pretreatment program to address industrial wastewater originating in Tijuana, Baja California. The pretreatment program is not intended to be an alternative considered in the SEIS; rather, it is an ongoing program intended to assist Mexico in providing the highest quality influent for treatment at the SBIWTP. As such, the pretreatment program is discussed in terms of NEPA disclosure, and not as an alternative subject to comparative analysis. The status of the pretreatment program described in the DSEIS was current at the time of publication of the DSEIS. Since publication of the DSEIS, additional program activities have been accomplished for the pretreatment program; the updated status is discussed in Section 3.1.2 of the FSEIS and in General Response 2 (Section 4.2.2 of the FSEIS).

A15-8. The lead agencies concur that continued population growth in Tijuana results in needed water and wastewater infrastructure to accommodate anticipated flows. Please refer to General Response 1 for a discussion of expandability of all the alternatives. The commentor is not correct regarding the construction schedule of the CMA Ponds at the Hofer Site Alternative and potential conflicts for future expansion.

A15-9. The lead agencies are committed to secondary treatment. This comment is addressed in Response to Comment A5-4.

A15-10. The public meeting that the lead agencies held to discuss the alternatives to be considered in the SEIS was conducted on February 12, 1997. The official public transcript of that meeting is reproduced in Appendix G5 of the DSEIS. Executive Order (EO) 12989, *Federal Actions to Address Environmental Justice Populations and Low-Income Populations* (February 11, 1994) is discussed in Sections 2.6 and 3.6 of the DSEIS. This EO has the primary purpose of ensuring that:

"each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations ..."

According to EPA's Office of Environmental Justice, the "goal of *fair treatment* is not to shift risks among populations, but to identify potential disproportionately high and adverse

effects and identify alternatives that may mitigate these impacts.” The intent of the environmental justice analysis is to address impacts to minority and/or low income populations that are disproportionate to the general population. Populations adjacent to a proposed action (including property owners, residents, businesses, and private stakeholders) are not automatically defined as having low income or minority status solely based on proximity to a project. In the DSEIS (Section 3.6.1.2), impacts would be considered to have a disproportionately high adverse impact to minority and low-income populations if a significant environmental or human health impact would occur with greater frequency for those populations than for the general population. As presented in Section 3.7, Public Health and Safety, of the DSEIS, no significant health and safety risks to the general population in the vicinity of the SBIWTP have been identified. Because there are no health impacts to the general population (i.e., public health and safety would improve with implementation of any of the alternatives—see Section 3.7 of the DSEIS), there are no impacts to any minority and/or low income populations that would be disproportionate to the impacts to the general population. In addition, the area in which the SBIWTP is located has been zoned since the mid-1980s for uses that include wastewater treatment.

A15-11. The lead agencies acknowledge the recommendations made. In reference to the pretreatment program in Mexico, see Section 3.1.2 of the DSEIS, 3.1.2 of the FSEIS, and General Comment 2 (Section 4.2.2 of the FSEIS). In reference to the recommended 1-year monitoring program, see Response to Comment A5-4. For a discussion of federal funding, see Comment A3-14. The Preferred Alternative does not include a demonstration project for ponds treatment. The reasons for selection of the Preferred Alternative are discussed in Section 1.3 of the FSEIS.

A15-12. The lead agencies agree with the commentor on a commitment to working with all interests to effect selection of an alternative that best meets the lead agencies’ and others’ long term protection of public health and safety and water quality. We believe that the DSEIS and FSEIS provide adequate disclosure and analysis under NEPA and that, in conjunction with valuable public input, the Preferred Alternative serves the public interest. We do not agree, however, that a substantial rewrite of the DSEIS is required on the basis of issues raised by the commentor. See Responses to Comments A15-1 through A15-11, above.

4.4 Responses to Organizations' Comments

B1. Agua Clara, LLC.

B1-1. In the Draft SEIS, the agencies reviewed the Bajagua project, but rejected it from further evaluation because “it was not a reasonable and feasible method for substantially accomplishing the objective of providing long-term treatment at the SBIWTP.” Specifically, during the preparation of the Draft SEIS, the Bajagua proposal was at a very conceptual stage and could not be considered a reasonable alternative that would allow for meaningful analysis and comparison to the other alternatives in the SEIS. No formal plans delineating the project had been submitted by the project sponsors. The lead agencies did receive correspondence from Agua Clara, on February 28, 1996, stating Agua Clara’s intention to submit a “detailed proposal in the near future.” No additional information, however, was received by the lead agencies until November 1998, which was well after the Draft SEIS was completed and the comment period was closed. (See Appendix N of the FSEIS.) Moreover, the information submitted in November, 1998, was insufficient to support the level of analysis required for the SEIS. Similarly, the Step 1 application Agua Clara submitted to the Border Environment Cooperation Commission (BECC) in September, 1997, did not help to define the proposal further, because it contained only a limited project description and no supporting design or cost documentation.

Furthermore, the Bajagua project was, and still remains, an unfeasible alternative. Treaty Minute 283 and Section 510 of the Water Quality Act of 1987 calls for secondary treatment in the United States. In order for the Bajagua alternative to be considered feasible, Agua Clara must obtain written support from MxIBWC demonstrating Mexico’s interest in renegotiating Treaty Minute 283 to allow for treatment facilities in Mexico. In addition, Agua Clara must obtain new legislation from the U.S. Congress that would provide legal authority for the United States to implement the Bajagua project, which currently could not be implemented under U.S. law. The new law would have to authorize and appropriate money to the USIBWC that could be used to fund the project costs over the 50-year service agreement period. Currently, the Anti-Deficiency Act prohibits the Federal government from entering into a contract in advance of appropriations made for such purposes or in excess of the amount available, unless authorized by law. Agua Clara must also secure new legislation from the U.S. Congress which would authorize a sole source contract with Agua Clara, currently prohibited by the Federal Acquisition Regulations (FAR). Otherwise, if the United States were to consider a reclamation alternative in Tijuana, there would be no justification to consider only the proposal from Agua Clara rather than all responsible and responsive companies.

Finally, the Bajagua proposal has not received an endorsement from the Mexican federal government. Agua Clara did submit to the lead agencies correspondence from CNA and the Baja California, during the Draft SEIS. That correspondence expressed interest in the Bajagua proposal. Subsequently, the lead agencies have received additional correspondence from CNA acknowledging the conceptual nature of the proposal and expressing a desire to analyze the proposal internally. (See Appendix N of the FSEIS) The lead agencies have informed Agua Clara that they must provide a letter from MxIBWC to the USIBWC requesting to renegotiate Treaty Minute 283 to allow for treatment facilities to be placed in

Mexico. In addition, it would be desirable for Agua Clara to obtain explicit written support from various Mexican interests, including CNA, Baja California, and the City of Tijuana.

B1-2. One of the conditions for the City of San Diego to receive a 301(h) waiver from the Clean Water Act for the Point Loma facility was a requirement for wastewater reclamation. Currently, the City is constructing the North City Wastewater Reclamation Plant and South Bay Wastewater Reclamation Plant.

Although EPA and USIBWC are committed to supporting appropriate treatment and reclamation projects in Tijuana, reclamation was not considered feasible for the SEIS, because Treaty Minute 283 identifies treatment to be located in the United States. In order to make Bajagua (or any secondary/reclamation alternative in Mexico) feasible, written correspondence from MxIBWC indicating Mexico's desire to renegotiate Treaty Minute 283 would be required. If Mexico exercise its discretion to have the effluent returned back to Mexico, treatment alternatives in the U.S. do not preclude reclamation.

B1-3. The lead agencies have not received correspondence on the DSEIS from the Baja California. The letter included by the commentor from the Baja California was addressed to CNA, with no response from the lead agencies requested.

B1-4. See Response to Comments A9 and A13.

B1-5. The lead agencies' legal counsel, including the Department of Justice, have reviewed the DSEIS and the FSEIS, including Section 1.6, Alternatives Considered but Eliminated from Further Consideration.

B1-6. The communications of the lead agencies on the Bajagua proposal are included in Appendix N of this FSEIS.

B1-7. In Minute 283, the United States and Mexican governments agreed to construct a secondary treatment and discharge facility in the United States to treat sewage from Tijuana. On November 27, 1998, MxIBWC wrote to the USIBWC stating MxIBWC's intention not to modify Treaty Minute 283 and 296 in order to examine the Bajagua alternative (See Appendix N). Rather, MxIBWC expressed interest in looking for reclamation opportunities outside of what would be available from the SBIWTP. On February 15, 1999, CNA sent a letter to the EPA stating the Mexican government's position regarding the Bajagua proposal. (In addition, the letter explicitly stated that the position in the letter reflected the position of the Government of Baja and the City of Tijuana concerning the matter.) The letter stated that the Mexican government considered the Bajagua proposal to be too conceptual to consider fully the technical, economic, and jurisdictional feasibility of the project. CNA went further to state that the Bajagua alternative should not be considered as an option for secondary treatment of the South Bay International Wastewater Treatment Plant effluent (see Appendix N of this FSEIS).

B1-8. See Response to Comment B1-7.

B1-9. Refer to Response to Comment B1-1.

B1-10. Funds have been appropriated by the U.S. Congress to EPA to construct wastewater infrastructure along the border. The lead agencies are currently seeking Congressional

support for using these already appropriated funds to implement the CMA Ponds at Hofer Site alternative.

B2. William Swan, Attorney/Consultant

B2-1. The lead agencies' reasons for not including the Agua Clara proposal as an alternative in the SEIS are presented in Response B1-1 and B1-7. As stated in Response B1-7, the federal Mexican government does not endorse the Bajagua project. The lead agencies recognize Minute 283 can be renegotiated if the Mexican government indicates a desire to enter into such negotiations (see Response to Comment B1-7).

In reference to the cited CEQ guidance (July 1, 1998), the guidance focuses on the evaluation of impacts in Mexico of proposed alternatives in the United States and not on the selection of a location for the alternatives. The DSEIS did evaluate known trans-boundary impacts in Mexico (see Chapter 3 of the DSEIS). The lead agencies disagree with the commentor's interpretation of the CEQ guidance that lead agencies must consider projects outside of the United States, in this case Mexico. Rather, the CEQ guidance suggests that agencies evaluate impacts of their projects beyond the United States, if appropriate.

B3. Citizens Against Recreational Eviction

B3-1. The commentor's preference for the Activated Sludge alternative is acknowledged. The EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

B3-2. The comment about the immediate need for secondary treatment and a pretreatment program is acknowledged. The USIBWC and EPA lead agencies have selected CMA Ponds at the Hofer Site for the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. In the event that interim discharges to the ocean occur, the discharge monitoring must comply with the conditions of the NPDES permit and Cease and Desist Order. See General Response 2 for a discussion of the pretreatment program.

B3-3. The AIPS at Spooner's Mesa Alternative was not selected as the Preferred Alternative. The lead agencies, the USIBWC and EPA, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The lead agencies do not agree that coordination with Mexico has been a token effort. The USIBWC has coordinated closely with its Mexican counterpart, CILA, to address the need to implement effective pretreatment and treatment of wastewater originating in Mexico. In addition, Mexico has been involved in the review of the DSEIS and their concerns in the preparation of the FSEIS, and these discussions will continue. In reference to the comment on odors, see General Response 3. For visual impacts, see Section 3.8 of the DSEIS.

B3-4. Expandability of the CMA Ponds at the Hofer Site is not a fatal flaw of this alternative. Mexico is planning to construct several wastewater treatment plants in Tijuana for its next increment of capacity. The United States supports Mexico's plan to develop four new wastewater treatment facilities in Mexico. If facility expansion in the United States is determined at a later time to be necessary, the environmental impacts associated with that action will be evaluated in a separate environmental document. Additionally, all alternatives can be expanded to provide 50-mgd capacity. Minute 283 does not call for activated sludge treatment, it specifies secondary treatment (see Appendix A1 of the DSEIS).

Although the SBIWTP design included a build-out to 100 mgd, any additional capacity beyond 25 mgd would require international negotiations and agreements.

The commentor states that “plans for expandability were inferred.” The issue of expandability is discussed in detail in General Response 1 of this FSEIS. The lead agencies do not agree that consideration of ponds as an alternative is an example of “poor and indifferent planning efforts.” See General Response 3 for a discussion of odor. The United States and Mexican Governments have coordinated closely in the consideration of the alternatives addressed in the DSEIS, including ponds. The lead agencies acknowledge the commentor’s concerns about the local community, and have encouraged public input throughout the preparation of the SEIS. This includes regular Focus Group meetings and workshops (see Appendix H of the FSEIS) and public hearings. In addition, the lead agencies have coordinated closely with individual community members to address their concerns.

B3-5. The commentor’s support of activated sludge treatment is acknowledged. See Section 1.3 of this FSEIS.

B4. The Green Store

B4-1. The commentor’s support for a pond system for secondary treatment is acknowledged. See General Response 2 for a discussion of toxicity, including an update of the ongoing pretreatment program in Tijuana. Also see Section 1.3 of this FSEIS.

B5. Imperial Beach Chamber of Commerce and Visitor’s (sic) Bureau

B5-1. The commentor’s opposition to the advanced primary and partial secondary treatment systems is acknowledged. Neither of these alternatives was selected as the Preferred Alternative. The Preferred Alternative, CMA Ponds at the Hofer Site, is discussed in Section 1.3 of the FSEIS.

B5-2. The commentor’s preference for a secondary treatment option that treats sewage to protect public health and water quality is acknowledged. The Preferred Alternative, CMA Ponds at the Hofer Site, is discussed in Section 1.3 of the FSEIS.

B5-3. The commentor’s comment on funding is acknowledged. Funds have been appropriated by Congress to EPA that may be available for construction of the CMA Pond alternative. The lead agencies are currently seeking Congressional support on using these funds to implement this alternative. Also see Response to Comment A3-14.

B5-4. All the alternatives considered in the SEIS would result in positive socioeconomic impacts to the economy, including Imperial Beach (see Section 3.6 of the DSEIS). The Preferred Alternative is discussed in Section 1.3 of the FSEIS. In regard to implementing the best solution in the shortest timeframe, see Comment A3-5.

B5-5. The Preferred Alternative, CMA Ponds at the Hofer Site, was selected by the lead agencies (see Section 1.3 of the FSEIS). The DSEIS, FSEIS, and the Administrative Record represent the Technical Group’s findings.

B5-6. See General Response 1 for a discussion of expandability.

B5-7. See Response to Comment A3-7 for a discussion of discharging effluent through the Point Loma facility.

B5-8. The Mexican Government is currently preparing a study that addresses sludge disposal locations in Mexico. An update on this study is in Chapter 3 of this FSEIS and this issue is addressed in Response to Comment A2-2.

B5-9. The decision to construct a secondary international treatment plant in the United States and an ocean outfall is documented in Minute 283, which is a negotiated agreement between the United States and Mexico. The Minute does not specify activated sludge as the secondary treatment. This agreement is summarized in Section 1.2.3.2 of the DSEIS and in Appendix A of the DSEIS. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

B6. Preserve Wild Santee

B6-1. The commentor requests the lead agencies to select the CMA Ponds at the Hofer Site as the Preferred Alternative. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

B7. San Diego Audubon Society

B7-1. The commentor requests the lead agencies not to select any alternative that is less than secondary treatment as the Preferred Alternative. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. This alternative incorporates secondary treatment methods. Also see Appendix C of the DSEIS for the comment on the ocean outfall.

B7-2. The commentor requests the lead agencies not to select the Activated Sludge/No Action Alternative as the Preferred Alternative. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

B7-3. The commentor requests the lead agencies to select secondary treatment using ponds as the Preferred Alternative. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

B7-4. See General Response 1 for a discussion of system expansion.

B7-5. The lead agencies support the efforts of the Mexican Government, the RWQCB, and the City of San Diego to develop and implement an effective pretreatment program for industrial wastewater originating in Tijuana. The pretreatment program is discussed in Section 3.1.2 of the DSEIS. An update of the pretreatment program is also discussed in Section 3.1.2 of the FSEIS. The commentor is incorrect that there are “diplomatic problems” with the United States “insisting on pretreatment.” Both the United States and Mexican Governments fully support the ongoing efforts to institute pretreatment in Tijuana.

B7-6. The existing collection system for Tijuana is discussed in detail in Section 1.3.2.2 of the DSEIS. Mexico has made substantive progress in the past decade to improve its sewage infrastructure system. In addition to the existing facilities, additional system redundancy is being planned for Tijuana's collection system, including a new parallel pump station and conveyance system to transport wastewater to the San Antonio de los Buenos Wastewater Treatment Plant in Mexico and the expansion and rehabilitation of the plant. These projects, which were certified by BECC in June 1997, are also discussed in Section 1.3.2.2 of the DSEIS. The United States Government supports these efforts to upgrade the Tijuana collection system.

In November 1998, the City of San Diego, CESPT, State of California, and the City of Imperial Beach completed a series of projects to remove obstructions in the collection system of Tijuana that were creating the major raw sewage spills to the Tijuana River. As part of a continuing effort, the BECC is reviewing an application from CESPT that would fund a collection-system master plan and an assessment of the condition of the sewer system.

B8. Sierra Club, San Diego Chapter

B8-1. The lead agencies agree that the task of selecting the long term treatment option for the SBIWTP is critical. The analysis conducted for the SEIS to characterize influent is appropriate as reported in the DSEIS and in the supporting technical studies contained in the DSEIS appendices. The issues summarized in this comment are addressed in Responses to Comments B8-2 through B8-27. Please refer to those responses for a detailed discussion of the summarized issues. The commentor's preference for either the CMA or the AIPS ponds alternatives is acknowledged.

B8-2. The 8-day sample rate that was used in 1996 was the sample rate required for Point Loma under the NPDES permit. Because the samples were collected as part of the Point Loma monitoring program, they were collected as 24-hour composites once every 8 days in accordance with the NPDES permit conditions. Monitoring of the SBIWTP effluent will occur in accordance with the frequency set by the RWQCB in the NPDES permit for the SBIWTP. The provisions of this monitoring program were subject to public review as part of the RWQCB public hearings conducted in October 1996. The data collected every 8 days are referred to as the Emergency Connection data set and is used throughout the DSEIS to analyze impacts to environmental resources, particularly in Sections 3.1.3, 3.2, and 3.7 and in Appendices B3, C, and D. The influent quality was evaluated in the Headworks Allocation Report (Malcolm Pirnie, 1997), and limitations were established and included in the NPDES permit. This report is included in the Administrative Record for this SEIS.

B8-3. Comment acknowledged. The Tijuana wastewater data set from 1996 used by the authors of this comment was the same data set used by the lead agencies in the DSEIS to make projections of influent and effluent levels for the alternatives. In the DSEIS, the 1996 data set was combined with the 1995 data set, thereby doubling the amount of data and increasing the statistical significance of the concentrations used. The combined data set is referred to as the Emergency Connection data set and is used throughout the DSEIS to analyze impacts to environmental resources, particularly in Sections 3.1.3, 3.2, and 3.7 and in Appendices B3, C, and D.

B8-4. The estimation methods used in the DSEIS are not flawed. In the original ocean modeling conducted for the discharge through the SBOO (Parsons ES, 1993) and in the Ocean Plan Assessment (Malcolm Pirnie, 1993), the concentrations were estimated using the average and recorded maximum of the monitoring data used as the sample set. The estimations used in the SEIS are consistent with these approaches. The statistical approach applied in the DSEIS is one of several standard approaches that is widely applied by regulators wastewater facility designers. The approach suggested by the commentor is not appropriate for this sample set because many of the compounds in the sample set contained concentrations below the detection limit and a meaningful statistical distribution using the methodology suggested by the commentor could not be developed for these compounds. The method used in the DSEIS was consistent for all compounds and was also consistent with the ocean model and the Ocean Plan Assessment. Wherever possible, the methodology used in this analysis conformed with the methodology used in the Headworks Allocation Report (Malcolm Pirnie, 1997). An additional headworks allocation study will be prepared based on the additional processes that will be constructed for the Preferred Alternative, CMA Ponds at the Hofer Site, which is discussed in Section 1.3 of the FSEIS. The headworks allocation studies are a necessary first step for identifying the compounds that should be addressed as a priority in the pretreatment program. The methodology used in the SEIS does not ignore the “rudiments of estimation theory.” Rather, the methodology is appropriate to ensure that the findings could be applicable to both the needs of the SEIS and of the pretreatment program. In reference to the sampling frequency, see Response to Comment B9-2.

B8-5. Regardless of how the influent concentrations will change in the future, the SBIWTP effluent must comply with the NPDES permit. If discharges exceeding permit conditions were to occur in the future, then remedial actions would be necessary to bring the discharge back into compliance. The requirement to comply with the conditions of the NPDES permit will not change on the basis of industrial growth projections or the status of the industrial pretreatment program in Mexico. For this reason, any uncertainties associated with either of these concerns do not translate into numerical factors that could be applied to the influent concentrations used in the SEIS analysis. The headworks allocation that provides influent limits to the NPDES permit will be updated periodically, which will capture trends in influent quality.

B8-6. We agree with the commentor that the absence of regulated toxic compounds in the influent does not preclude them from monitoring requirements. The USIBWC has been monitoring (and will continue to monitor) for all compounds contained in the NPDES permit.

B8-7. The DSEIS does address flow measurements and the reliability of the measured toxin concentrations during low-flow conditions (see Appendices B3, C, and D of the DSEIS). Over the course of the 2 years (1995 and 1996) when data were collected, the flow conditions were variable. The predicted influent concentrations developed from this data set did incorporate data from low and high flow months. The data set that was used reflects variable flow conditions. The influent concentrations developed from this data set are presented in Appendices B3, C, and D of the DSEIS.

B8-8. The data used in the DSEIS (see Appendices B3, C, and D) are the best existing data for predicting toxic upsets caused by the toxic compounds present in the raw wastewater.

Using these data and engineering judgment, it was possible to predict in qualitative terms the relative likelihood for toxic upsets to the various treatment technologies used in each alternative. Given that the Preferred Alternative is CMA Ponds at the Hofer Site, a headworks allocation study will be prepared to determine in quantitative terms whether the levels of toxic compounds in the influent could cause upsets to the treatment process. Potential impacts from toxic spikes were included, rather than excluded, in the analysis in Section 3.1.3 of the DSEIS to ensure that a conservative approach was taken to possible risks. See also General Response 2 for a discussion of toxic spikes.

B8-9. The inference that the DSEIS relied on biased data is unsubstantiated by the actual conditions under which monitoring occurred. The lead agencies and other agencies cooperating in the 1995 and 1996 wastewater monitoring were in communication with the relevant Mexican public agencies throughout this monitoring period. The United States agencies were not informed of any possible actions to divert flows and have no reason to believe that the wastewater characteristics are anything but representative of actual conditions.

B8-10. The lead agencies are following the procedures specified in the NPDES permit. The methodology outlined by the commentor is not based on sound statistical methodology.

B8-11. See Responses to Comments B8-4, B8-5, and B8-9.

B8-12. Comment acknowledged.

B8-13. In Appendix C Table 5.7C, the table shows removal efficiencies only, as the title indicates. Table 5.11 does not show the estimated values of the influent concentration of TCDD because there were no measurable concentrations during that monitoring period. As discussed in Section 3.1.3 of the FSEIS, dioxin analyses from September 1996 through April 1998 were used to model removals of dioxin by all of the alternatives in the FSEIS. Additional and more reliable literature sources were used to update the removal efficiencies that are used in the FSEIS and are shown in the revised Table 5.7C, Appendix C of the DSEIS and also in Section 3.2.12 of the FSEIS. Estimated influent and effluent concentrations of TCDD equivalents are provided for all alternatives based on the September 1996-April 1998 monitoring data.

B8-14. The guidelines used in the DSEIS and cited by the commentor are adequate for estimating disinfection needs to protect human health from pathogens in the wastewater. Total and fecal coliform are the internationally accepted indicator organisms used to monitor pathogens in wastewater and treatment plant effluent and, therefore, include pathogens that could be present in wastewater originating in Mexico as well as wastewater originating in the United States. Use of total and fecal coliform as indicator organisms is a standard used by the World Health Organization, United Nations agencies, and other international bodies responsible for public health. It is not necessary to have all of the pathogens identified in the treatment plant influent to determine the effectiveness of treatment, including disinfection. The use of coliform as an indicator of pathogen reduction has been correlated with removal efficiencies for other pathogens through many years of analysis by public health professionals. On the basis of this correlation, the permitted levels of total and fecal coliform found in the receiving water have been set at an appropriately low level to safeguard public health. Total and fecal coliform will be monitored in

accordance with the NPDES permit conditions to ensure that the applicable Ocean Plan limits are met. The NPDES permit requires monitoring of enterococcus bacteria, which is an additional measure for safeguarding human health for effluent discharges to the ocean.

B8-15. The commentor's statement is acknowledged.

B8-16. The DSEIS does adequately characterize pathogens in wastewater from Mexico. For the portion of this comment that addresses pathogen in the wastewater, see the response to Response to Comment B8-14. The comment on the removal efficiency of the CMA system is acknowledged.

B8-17. The coliform data obtained from sampling the influent to the SBIWTP in 1997 and 1998 are the most recent coliform data available for the raw wastewater from Tijuana; therefore, this data set was the only appropriate data set to use for the analysis provided in Appendix B4 of the DSEIS. Coliform removal efficiencies were adjusted from the values provided by the Municipal Wastewater Disinfection guidance manual (EPA, 1986) because those values are national averages and not specific to the SBIWTP treatment processes or influent. The total and fecal coliform removal efficiencies were adjusted upward based on actual removal efficiency at the SBIWTP through the advanced primary facility. The conventional primary-treatment removal efficiency as discussed in the DSEIS was adjusted based on the actual advanced primary removal efficiencies exhibited in the operation of the SBIWTP. These efficiencies are considered more accurate than those in the EPA guidance because they are specific to the operations of the SBIWTP but in fact do not produce a significant change in the total removal efficiencies of the AIPS and CMA systems for either total or fecal coliform. These adjustments made in the calculations do not change the magnitude of the overall removal efficiencies.

B8-18. The CDFG reef is roughly 3 miles or more from the South Bay Ocean Outfall discharge location and in deeper water than the discharge. As described in the DSEIS (Chapter 3), water quality standards (i.e., California Ocean Plan requirements) will be met following initial dilution. This occurs within 10 to 100 feet of the diffuser. Increased accumulation rates of sediment originating from the discharge are essentially zero at the reef location for any practical purpose (i.e., many orders of magnitude less than expected natural sedimentation rates).

The artificial reefs that CDFG constructed are for the purpose of recruiting deep-water fish and related species. The international reef is the artificial reef that the CDFG constructed nearest the outfall. This reef is located east of the outfall and is at a depth of 165 below the water surface. The CDFG does not consider the discharge from the SBIWTP to be a significant impact to the reef, largely because the effluent will not descend below the elevation of the outfall and the reef is 75 feet below the discharge depth. To accommodate the commentor's concern, the artificial reef has been added to Figure 2.1-3 of this FSEIS. The artificial reef is discussed in Sections 2.2 and 3.2 of the DSEIS. There are no kelp enhancement zones in the vicinity of the outfall. Historic kelp growth areas have been accounted for in the ocean modeling in the DSEIS (see Appendix C).

In reference to the San Diego *Union Tribune* article noted in the comment, neither the California Coastal Commission nor the CDFG have been approached by parties referenced in the article regarding assignment of economic value to artificial reefs. If either agency

were contacted in reference to artificial reefs, the CCC would be the permitting agency. Each request for a permit to enhance the reef would be evaluated individually. At this time, there is no “master permit” for reefs and the permitting agency has not received a permit application for any individual reefs noted in the newspaper article attached to the comment letter. (Personal communication, Sheldon Gen, EPA with Dennis Bedford, CDFG, April 22, 1998; and personal communication, Elizabeth Borowiec, EPA, with Chris Kern, California Coastal Commission, May 5, 1998).

B8-19. The effluent concentrations of toxic compounds from the Preferred Alternative (see Section 1.3 of the FSEIS) are predicted to meet the Ocean Plan standards for the protection of human health (see Appendix C of the DSEIS); therefore, no human health risks associated with contact or consumption of kelp would occur as a result of implementing the Preferred Alternative. Also see response to Comment B8-20 and B8-21.

B8-20. The lead agencies have considered the potential impact to surfers and other recreational users of the marine waters. The ocean model estimated the concentrations of toxic compounds and pathogens in the coastal zone (beaches and surf) and kelp beds. The Preferred Alternative, CMA Ponds at the Hofer Site (see Section 1.3 of the FSEIS) would comply with the Ocean Plan standards for the protection of human health (see Appendix C of the DSEIS). Implementation of the Preferred Alternative will also have a positive impact on the local economy, including the potential for surfing contests, as a result of fewer beach closures associated with improved water quality (see Section 3.6, Socioeconomics and Environmental Justice, of the DSEIS). Potential impacts to surfers could, however, occur as a result of continued discharges from the San Antonio de los Buenos Wastewater Treatment Plant in Mexico and wet-weather flows in the Tijuana watershed.

B8-21. All of the alternatives considered in the DSEIS and FSEIS would result in improvements to existing conditions, and implementing any of these alternatives would result in greater protection to public health and safety (including the unborn, the young, the infirm, and the elderly) than existing conditions. The public health and safety impacts that would result from implementing the alternatives are discussed in Section 3.7 of the DSEIS. Public health and safety impacts resulting from completion of the SBOO are discussed in Section 3.1.2 (Surface Water and Groundwater Quality) and 3.1.3 (Marine Water Quality) of the DSEIS. The adequacy of the California Ocean Plan discharge limits and the NPDES permit conditions are determined by agencies that regulate the activities that would result from implementing the alternatives presented in the SEIS. Revisions to these operational and performance provisions are best addressed through the appropriate regulatory agencies (e.g., California RWQCB), and are outside the scope of this SEIS.

B8-22. The DSEIS does address adequately the public health and safety impacts associated with sludge disposal based on available information to date. Regulations in the United States and the State of California regarding the handling of hazardous waste are considered adequate for the protection of public health and safety (see Chapter 5 of the DSEIS). The practices required by these regulations will be followed at the SBIWTP. The Mexican Government, assisted by United States funding, has recently completed a final Phase II sludge disposal report that addresses potential sites in Mexico for disposal of sludge generated as part of the treatment process. The DSEIS addresses public health and safety in Mexico resulting from sludge disposal in Section 3.7.6 of the DSEIS. Because a sludge disposal site had not been selected when the DSEIS was published, the DSEIS could not

address ultimate disposal sites. The FSEIS provides additional information on the sludge disposal site in Mexico (see Section 3.1.4 and Appendix M of the FEIS). Also see Response to Comment A2-2.

B8-23. Endocrine disrupters have been recognized by the lead agencies as a potential concern associated with wastewater discharges. Endocrine disrupters represent a developing field of study in the scientific community and one on which there are both limited studies and regulations or guidance. EPA has been addressing this new area of study and has convened an advisory committee to develop recommendations to address endocrine disrupters. EPA established an advisory committee that first convened on December 12 and 13, 1996, to develop screening methods for endocrine disrupters. As of May 1997, the advisory committee had agreed upon a definition for endocrine disrupters. The committee will consider both human and wildlife endocrine effects. The approach taken will go beyond screening and into "testing," which could include a risk assessment evaluation (as opposed to hazard determination). At this time, insufficient information in the scientific community regarding endocrine disrupters to establish which compounds are of concern and what concentrations pose a risk. Until this information is known and included in the performance requirements of project operations (including the discharge permit for the SBIWTP), impacts to biological receptors (both wildlife and human) cannot be evaluated. The lead agencies agree that a vital component of protecting public health and safety is to prevent contaminants from entering the waste stream. The United States is working with Mexico to develop a pretreatment program to reduce industrial discharges to the environment. See General Response 2 and Chapter 3 (Section 3.1.2) of the FSEIS.

B8-24. The comments on the treatment performance of the pond systems and the Focus Group's rating of expandability are acknowledged (see Chapter 2 and Appendix H of the FSEIS for more information on the Focus Group workshops). Expandability has been of concern to a number of parties involved in the Focus Group meetings. It was also identified early in the DSEIS process as a criterion for consideration in evaluating the alternatives. Although potential expansion is not within the scope of this SEIS, it was considered as an evaluation criterion at the request of Focus Group members (see Table ES-2 of the DSEIS). Consideration of expandability, therefore, does not change the scope of the SEIS. The lead agencies, the USIBWC and EPA, have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The United States supports Mexico's plan to develop four new wastewater treatment facilities in Mexico; for waters that could reach the United States, the U.S. government would require the flows to meet U.S. regulatory standards. If facility expansion is determined at a later time to be necessary, the environmental impacts associated with that action will be evaluated in a separate environmental document (see General Response 1 for additional discussion of expandability). Minute 283 does not specify peak-flow capabilities.

B8-25. The summary of the capital and operating costs findings of the DSEIS are acknowledged.

B8-26. The typographical errors are acknowledged and corrected in the FSEIS (Chapter 3) as noted: (1) Volume I, page 3-11, 3rd paragraph, Table 6.12A is revised to Table 6.13; (2) Volume II, Appendix B4, page B4-9, last paragraph the chlorophenol concentrations for Alternatives 4a and 4b are changed to 1.6 µg/L; (3) Volume II, Appendix B4, Table 2 the

fecal coliform average flow for Alternative 4a is changed to 2.5E+05. These changes do not alter the conclusions of the SEIS.

B8-27. Based on the available data on Mexican influent, the DSEIS has provided an adequate analysis of the chemical makeup of the influent of the SBIWTP (refer to Responses to Comments B8-1 through B8-26); therefore, there is no need to reassess the alternatives considered in the DSEIS. The commentator's preference for the CMA Ponds at the Hofer Site Alternative, with a second preference for the AIPS at Spooner's Mesa Alternative, is noted. See General Response 1 for discussion of detention and land use for the CMA ponds alternative.

B9. Surfrider Foundation

B9-1. The commentator indicates that because no modifications have been made to the design of the outfall to accommodate primary treated effluent, an informed scientific decision cannot be made concerning the discharge of less than secondary treated wastewater. The commentator provides a number of reasons supporting the general comment. Each of the issues raised by the commentator on this subject is addressed below. It is important to note, however, that the Preferred Alternative, CMA Ponds at the Hofer Site, uses a secondary treatment method.

(1) The commentator states that the additional head loss caused by discharge of primary treated effluent (as compared to secondary treated effluent) must be accounted for so that sufficient pressure exists at the diffuser to induce mixing.

The commentator makes two assumptions: (a) that an increased head loss will result from the conveyance of primary versus secondary treated wastewater and (b) that such an increase in head loss will degrade or change the diffuser performance. The variability in fluid properties and hydraulic characteristics between secondary and primary treated effluent, however, does not substantially affect the design of an outfall. The difference in pressure loss between the two cases is so small that it is insignificant in the design process. (See Cameron, Hydraulic Data, p. 4-55, 16th ed.) Further, in this case, the effluent would be advanced primary, which is more similar to secondary effluent than primary effluent. The universal practice among wastewater engineers is that there is no difference in friction loss between primary and secondary effluent. There is essentially no difference in design procedures used for an outfall intended to convey primary or secondary treated municipal waste. The only minor difference could be the minimum port size on the diffuser. Historically, diffuser ports for primary treatment plants were oversized to avoid blockage from such objects as bottles, wood, and other debris (present practices have largely eliminated this problem). This difference, however, is of academic interest only and is not dictated by hydraulic considerations in the design of outfalls. Theoretically, one may be able to calculate a difference in pressure loss between the two fluids; but the result is negligible.

The outfall incorporates an energy dissipation structure. The purpose of the energy dissipators is to dissipate excess potential energy between the treatment plant and the eastern terminus of the SBLO. The structures decrease the potential for turbulence. Although we do not believe this would be the case, if higher losses beyond the range considered in the design were to occur, the outfall and diffuser would still perform as

required. In such an event, less energy would have to be dissipated at the dissipation structure. Furthermore, the compensation would take place automatically, with no modification to the system, as wastewater levels increased in the energy dissipation structure. Therefore, the hydraulic performance of the diffuser would remain the same, even if there were increased pressure losses upstream in the diffuser. Thus, there is no need to re-evaluate the design of the outfall or diffuser. The diffuser will perform as designed regardless of the treatment level of effluent in the system.

(2) The commentor essentially restates the comment in item (1) above and indicates that the reason additional head loss will occur for the discharge of primary effluent is because of the higher concentration of particles (sediment) in the primary effluent. The commentor states that, the higher concentration of particles, reducing the pressure available at the diffuser, will cause the operation of the diffuser to be operated outside its design envelope (implying degraded operation).

The response is essentially the same as that given for item (1) above. It is noted, however, that the reference cited above states as follows:

“When the slurry contains particles under 150 microns and the concentration of the particles is low and the fluid velocity is high enough to ensure uniform particle distribution in the pipe - under these circumstances, the slurry behaves as a Newtonian liquid and the pressure loss is the same as the water friction loss...”

The particle size in the effluent is below 150 microns and the flow is, by design, sufficient to maintain the particles present in suspension. Thus, no difference in pressure loss caused by increased wall friction on the pipe is expected.

Even if in the hypothetical situation that the primary effluent were to be considered as a slurry, the above statement clearly confirms what has been universal practice among environmental engineers—that there is no substantive difference in friction losses between primary and secondary effluent.

(3) The commentor continues with the arguments of items (1) and (2) stating that the reduced pressure at the ports, under a configuration initially designed for secondary effluent, will be insufficient to operate the diffuser and achieve the required dilution. The commentor states that a critical Froude number of 2.44 is the criterion that must be maintained to achieve the dilution required, and indicates that the analyses done for the DSEIS show that the diffuser fails to produce adequate dilution.

The responses to items (1) and (2) above apply to, and generally provide the response to, this comment as well. However, responses to those portions of the comment concerning critical Froude number and the analyses done for the DSEIS are provided for clarification.

The design of modern diffusers provides for the rapid mixing of effluent with receiving water induced by both the jet momentum and the buoyancy of the fluid. Therefore, it is desirable to use a high rate diffuser (i.e., high jet velocities). The criteria of a minimum Froude number (i.e., a densimetric Froude number) are generally applied to avoid sea water intrusion in marine outfalls under low discharge conditions. This critical Froude number has nothing to do with the ability of the diffuser to achieve a particular dilution.

The “Y” design of the SBOO diffuser minimizes the variation in outside pressure between the first and last port of the diffuser, lessening the chances of sea water intrusion into some ports during extremely low flows. Jet velocities are limited on the upper end by other engineering design factors (e.g., required pressure or port material integrity). The SBOO, and its associated diffuser, is designed for a maximum flow much greater than the initial flows that will be conveyed through it. This is common practice in the construction of outfalls that they are intended to serve a growing community well into the future. To maintain the desired flows and discharge velocities through the diffuser, the available head (i.e., pressure maintained by using either pumps or gravity) and the number of ports actually open can be adjusted as the flows change over the design life of the system.

Building the diffuser to carry a much larger future flow and blocking a number of ports to maintain discharge velocities are standard practices. A schedule of ports opening with increased flows is incorporated in the Operation and Maintenance Manual prepared for the SBOO. Therefore, achieving sufficiently high Froude numbers to avoid sea water intrusion (not related to achieving a particular dilution) has been addressed in the design of the system. The hydraulic design of the diffuser is considered robust and allows for good performance under a wide range of flows.

The commentor’s statement that the Froude number of the jet must be greater than 2.44 to effect high enough head pressure for a port hole of a given size is baseless. The commentor references Table 2.7, Appendix C of Volume II of the DSEIS and states that the table shows that diffuser jets will fail to produce adequate dilution of the effluent. That is an incorrect interpretation of that table. Section 2.3 of Appendix C clearly states the rationale and interpretation of the initial dilution model results reported in Table 2.7. In many cases, combinations of lower flows through more open ports than might actually occur were examined to study the entire range of diffuser performance. Many of the scenarios provided in the appendix may not necessarily be directly related to any anticipated operational scenario.

The table indicates that the trapping depth increases with decreasing flows, so that for the lowest flows the trapping depth is expected to be the deepest. This follows since a small volume of effluent will blend and stop rising sooner than a larger volume of effluent.

The fact that the model used would not provide results for densimetric Froude numbers less than 2.44 is an artificial constraint placed on the EPA-released version of the model UDKHDEN. This was done intentionally because the model is not designed to provide reliable results for very low discharge velocities. The lack of execution of the model does not imply that dilutions become lower under such conditions. In fact, dilution will continue to increase as flow decreases—the model simply will not do a good job of predicting quantitative values. It is noted that the model, without the constraint implemented, does predict higher dilutions at lower flows, and the model is qualitatively correct. It is only the qualitative nature of the trend that is of interest in this case.

During the development of the Interim Operation SEIS, a wide range of diffuser configurations, receiving water conditions, and effluent flows were considered. The results clearly indicate that adequate dilution (i.e., greater than 100:1) can be achieved for the range of effluent flows anticipated, including advanced primary effluent.

(4) The commentor continues with additional statements that the critical Froude number must be maintained or dilution will diminish. The commentor indicates that jet velocity is responsible for dilutions of 20:1 to 50:1, while ambient water provides an additional 10:1 dilution. The commentor indicates that if the Froude number drops below 2.44, bubbles of effluent will rise to the surface with dilutions of only 10:1 achieved.

The technical basis of this comment is unclear. All of the points raised by the commentor, however, are addressed in items (1) through (3) above. In particular the correct interpretation of the Froude number cut-off of 2.44 and the behavior of dilution (increasing) as flows decrease is addressed in the previous responses.

(5) The commentor states that it is not true that any arbitrary set of operating conditions will achieve the required minimum dilution. The commentor uses the Honolulu outfall as an example citing violations of the Clean Water Act and sedimentation within the diffuser resulting from conveyance of primary treated effluent through a system designed for secondary effluent.

The point of the comment and application to the SBOO is not clearly stated in the comment. It appears that the commentor is attempting to draw a parallel between the systems. The following points should be considered:

- The noncompliance of the Honolulu discharge was not related to diffuser performance being less than anticipated or expected, but rather to concentrations of constituents in the discharge.
- Sea water intrusion resulted in sedimentation in the outfall because of low flow operation (with too many open ports). This had nothing to do with the treatment level of the effluent or increased pressure losses caused by primary treated effluent. Refer to the responses to items (1) through (3).

The case of the Honolulu outfall is instructive, and the problems of sea water intrusion have been observed in many large municipal outfalls running below capacity. These outfalls were built and operated before the problems of intrusion and recirculation were well understood. However, these problems have little or nothing to do, directly, with the expected performance of the SBOO.

(6) The commentor cites a paper by Williamson and the plume model documentation for CORMIX as evidence that increased particle loading in primary treated effluent, compared to secondary effluent, must be accounted for in outfall design.

The paper by Williamson concerns the maintenance of a minimum Froude number to avoid sea water intrusion. Sea water intrusion should be avoided, but the content of the paper is not about dilution performance of diffuser configurations and does not address the effect of treatment level on friction losses. See responses to items (1) through (5) above for more detail.

The input to CORMIX is not used to assess friction losses in an outfall pipeline. In fact, CORMIX only predicts diffuser performance for a user input flow rate and does not use or calculate any kind of friction losses. The dilution model CORMIX has an input parameter for particle loading (suspended sediment concentration) which is used only to assess compliance of water quality standards at particular regulatory boundaries. CORMIX is the

only one of the accepted dilution models that has an input file requiring such detailed parameters (all of the other models require the user to determine constituent concentrations and compliance with additional analysis using the model results).

(7) The comment states that the entries in Table 2.7 of Appendix C of the DSEIS indicate that effluent will reach the surface.

See the response to item (3). The values in the table discussed above show a continuous increase in trapping depth (deeper in the water column) as flow is reduced. Therefore, at the lowest flow, the trapping depth is expected to be the deepest. As for the case of dilution discussed in the response to item (3) above, the fact that the model used would not provide results for densimetric Froude numbers less than 2.44 is an artificial constraint placed on the EPA-released version of the model UDKHDEN. In fact, trapping depth will continue to increase as flow decreases—the model simply will not do a good job of predicting quantitative values. It is noted that the model, without the constraint implemented, does predict higher trapping depths at lower flows; and the model is qualitatively correct. As for the case of dilution above, it is only the qualitative nature of the trend that is of interest in this case.

(8) The commentor states that the analyses of the discharge plume dilution and trapping depth ignores seasonal conditions during which the plume would surface.

The dilution modeling was done for a wide range of seasonal conditions, and the verification runs presented in Appendix C of the DSEIS represent critical conditions. Critical conditions result in the lowest dilutions and shallowest trapping depths. Seasonal variability in the fate of the effluent discharged through the SBOO has been exhaustively modeled and fully disclosed in the Interim SEIS (see pp. 244-245). The available field data were used to input vertical density data into the dilution models. Although the gradient is substantially weaker during certain seasons (winter months), there is still a gradient; and it is still sufficient to result in the plume trapping below the surface. It is noted that only very small changes in vertical density are needed to result in trapping. (Differences in density of less than 0.0001 grams per cubic centimeter [g/cm^3] over the depth of water in question are sufficient.) There have been no model runs done (by the commentor or others) that contradict the results of the DSEIS modeling. It should be noted that the height of the diffuser legs is 2,000 feet.

(9) The commentor states that the DSEIS analysis for bacterial concentrations is not accurate because it is based on an average day and the reduced sunlight on short winter days would result in lower die-off of coliform bacteria than assumed.

See Response to Comment D4-2.

B9-2. It is correct that the 30-day limit for dioxin (TCDD equivalents) was exceeded in the monitoring conducted during the initial testing period of April to May 1997, and in October 1997. Only one sample was taken during each testing period (in accordance with the NPDES permit). The lead agencies have selected CMA Ponds at the Hofer Site as the Preferred Alternative, which will provide an increased level of treatment for dioxin before discharge. Regarding disinfection, all alternatives would be disinfected if an exceedance of the NPDES permit conditions were to occur (see Appendix B4 of the DSEIS). For the

Preferred Alternative, disinfection is not expected to be necessary, but as a conservative measure disinfection facilities could be provided.

B9-3. See Responses to Comments B1-1 through B1-10 and B2-1 for a discussion of reasonable and feasible alternatives.

B9-4. The objectives of the project have not significantly changed since the 1994 ROD was signed. The purpose and need of the project are stated in Section 1.4 of the DSEIS. This section states that the original purpose and need for the project, as identified in the 1994 FEIS, remains the same and that additional information has become available and new circumstances have arisen that require additional consideration of long term treatment options. The additional purposes of the action are to consider environmental impacts of peak flows; to evaluate technical information on the feasibility of alternative methods of achieving secondary treatment (i.e., ponds); to include new information on the composition of Mexican wastewater; to collect and analyze marine water quality data; and to consider the costs associated with the SBIWTP. These additional considerations are stated in Section 1.4, Purpose and Need, of the DSEIS and do not constitute significant changes to the project objectives.

B9-5. As noted in Response to Comment B8-21, implementation of any of the alternatives considered in the SEIS would result in improvements to water quality and to public health and safety over existing conditions. The commentor's statement about maximizing treatment is acknowledged. EPA and USIBWC, the lead agencies, have selected CMA Ponds at the Hofer Site (a secondary treatment alternative) as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

B9-6. The information in the DSEIS is accurate as written regarding available land resources and the effect on the CMA Ponds at the Hofer Site Alternative. Several sites in the Tijuana River valley were considered as potential sites for the SBIWTP (see Lawry, 1984; Boyle, 1990; RECON, 1994). A thorough study of the potential sites concluded that the current SBIWTP site and the Hofer site would best accommodate the project design. These previous studies explored vigorously and evaluated objectively the current SBIWTP and Hofer sites. In addition, the Spooner's Mesa and Hofer Alternatives were also thoroughly and adequately evaluated in the Phase II Ponds Study (CH2M HILL, 1997); and the DSEIS, therefore, is adequate.

The existing SBIWTP site was raised in elevation and protect it from flooding. Any use of the Hofer site by the lead agencies for wastewater treatment would provide the same level of protection.

The Hofer site refers to the combined Hofer property and the USIBWC property referred to in the comment letter as the "northeast triangle." The drawings that illustrate the CMA Ponds at the Hofer Site Alternative correctly show the alternative using both parcels that comprise the Hofer site, as explained in Section 1.5.3.1 of the DSEIS. Figure 1.5.8 of the DSEIS has been revised in Chapter 3 of the Final SEIS to better illustrate the Hofer site. The total area of the Hofer site is 43 acres.

Please refer to General Response 1 for discussion of the issue of expandability of the CMA Ponds at the Hofer Site Alternative.

Use of the advanced primary settling basins for flow equalization for the CMA Ponds at the Hofer Site Alternative would not improve the alternative. Equalization of flows would smooth out the diurnal peaks over the course of the day, but it would not increase the daily average or peak capacity of the alternative. This is different from the activated sludge alternative with flow equalization where the clarifier capacity is the limiting factor. In that case, flow equalization allows the activated sludge facility to handle a larger peak. For the CMA Ponds at the Hofer Site Alternative, clarifiers are not used; and equalizing the flow by using excess primary basin capacity does not improve the alternative.

The Hofer site and unoccupied areas of the existing SBIWTP site are the only sites presently available for construction of any of the alternatives, except the AIPS at Spooner's Mesa. These areas were adequately evaluated in the DSEIS (see Chapter 3 of the DSEIS). These areas are also the only sites currently considered for possible future expansion. For the current CMA Ponds at the Hofer Site Alternative, use of available land on the SBIWTP site is not necessary, will not be used, and is not considered a limiting factor. The DSEIS is adequate in its discussion of expansion of the CMA Ponds at the Hofer Site Alternative and other alternatives. The issue of expandability was raised by the Focus Group (see Appendix I of the Final SEIS and Table ES-2 of the DSEIS). The Focus Group defined expandability as additional land needed beyond the land available at the SBIWTP and Hofer sites to treat 50 mgd.

B9-7. For all of the alternatives considered, the detention times are sufficiently long to provide the level of treatment necessary to meet the treatment objectives of the process in terms of TSS and BOD removal (see Section 3.1.3 of the DSEIS). Removal of suspended solids and BOD is the primary function of wastewater treatment plants. Based on standard design practices, the CMA ponds systems will meet the NPDES permit conditions without additional detention. The DSEIS includes the hydraulic residence time (HRT) in the calculations for coliform removal from the pond alternatives where HRT was sufficiently long to have a positive impact on the coliform levels (see Appendix B4 of the DSEIS). It is correct that the AIPS at Spooner's Mesa Alternative is predicted to have the highest capacity to remove pathogens because it has the longest detention time. The AIPS at Spooner's Mesa Alternative, however, has significant land use conflicts and is not the Preferred Alternative. For alternatives where pathogen levels would not comply with the discharge limits without further treatment, disinfection of the effluent would occur (see Section 3.1.3 of the DSEIS). The Preferred Alternative is CMA Ponds at the Hofer Site (see Section 1.3 of the FSEIS)

The CMA Ponds at the Hofer Site Alternative uses a more advanced technology than previously considered that is designed to minimize effluent algae, thereby producing a higher level of treatment in terms of effluent BOD and TSS. This technology performs as well as the activated sludge process. A key to maintaining this high level of effluent water quality is to control excess algae by maintaining a short detention time, preferably no more than 6 days. The trade-off for this level of treatment is that pathogen levels are not reduced as much as they are in pond systems that have higher detention times. The effluent coliform levels, however, are still predicted to meet the NPDES permit conditions. As stated, disinfection of the effluent will occur prior to discharge for all alternatives where the detention time and other factors are not sufficient to reduce coliforms to the level required by the permit. See response to Comment B10-6 regarding site constraints.

B9-8. The comment is acknowledged. Changes were made in the Executive Summary and to Section 1.5.3 of the DSEIS to explain that the higher BOD and TSS effluent concentrations from the AIPS at Spooner's Mesa Alternative meets secondary equivalent standards (see Chapter 3 of the Final SEIS).

B9-9. General Comment 2 discusses in detail the effect of toxic spikes on the activated sludge process and provides an update of the implementation of the pretreatment program in Tijuana. As a sovereign nation, the Mexican Government is responsible for enforcement of activities and programs within its national borders and local jurisdictions. On the basis of communications between the United States and Mexico, the responsible Mexican agencies are establishing a permanent pretreatment program in accordance with Minute 283; and the lead agencies will continue to support all United States and Mexican Government activities to implement an effective program. The commentor is correct that Section 3.2.8.2 of the DSEIS finds that the AIPS at Spooner's Mesa Alternative is the most effective for reducing toxic compounds, closely followed by the CMA Ponds at the Hofer Site Alternative.

B9-10. The CMA Ponds at the Hofer Site Alternative is the Preferred Alternative (see Section 1.3 of this FSEIS). The predictions for sludge production quantity and quality for each of the alternatives evaluated in the DSEIS suggest that sludge produced on a daily basis from the advanced primary and activated sludge processes could be hazardous. This information is discussed in Chapter 3 of the FSEIS. In the DSEIS, Sections 2.3 and 5.1 of Appendix B3 provide the detailed sludge removal approach and frequency for the alternatives. Table 8 of Appendix B3 has been included in Chapter 3 of the FSEIS.

B9-11. The construction cost estimates for all of the alternatives were adjusted in the DSEIS to the same ENR Construction Cost Index for Los Angeles for August 1997, which is 6631 (see Appendix B2, Section 4.0 of the DSEIS).

B9-12. The intent of Table 1.5-1 is to summarize the flows through each of the processes in each of the alternatives. The table is not intended to summarize treatment levels and detention times.

B9-13. See Response to Comment Letters A9, B1, and B2.

B9-14. The long term use of Mexico's parallel conveyance and pump station was considered by the lead agencies as an alternative but eliminated from consideration for several reasons (see Section 1.6.3 of the DSEIS and Response to Comment B1-1). That parallel system was never intended to convey additional wastewater to the San Antonio de los Buenos treatment plant; rather, it was intended as a redundant system. In addition, Mexico has neither offered the parallel system for use to convey treated water to the SBIWTP, nor does it plan to construct additional treatment capacity at San Antonio de los Buenos. Although it was determined that the project would be cost-effective and discharge was found to be feasible on an interim basis, ocean modeling conducted as part of the Interim Operation SEIS revealed that discharge of the advanced primary effluent to the surf zone from the San Antonio de los Buenos Wastewater Treatment Plant in Mexico would result in the potential for wastewater exceeding coliform standards to be transported into United States waters. As noted in the comment, the lead agencies recognize that water quality in the ocean is affected by factors other than discharge from San Antonio de los Buenos and that other sources can affect the surf zone. These other potential sources, however, do not eliminate

the concerns about the potential for exceedances of coliform standards associated with the long term use of Mexico's parallel conveyance and pump station. The SEIS is not misleading in this assessment; rather, the intent is to protect public health and safety. In addition, not being considered a feasible alternative under NEPA has not precluded the approval of this project in Mexico. The proposal for the parallel pump station and conveyance system in Mexico to transport wastewater to the San Antonio de los Buenos Wastewater Treatment Plant (and the expansion and rehabilitation of the plant) were certified by BECC in June 1997 (see Section 1.3.2.2 of the DSEIS and Response to Comment B7-6).

B9-15. Total sludge production for each alternative in terms of truck loads per day is discussed in the DSEIS (Appendix B3, Table 8). For the pond alternatives, this amount increases in the summer when one of the treatment trains is taken offline, drained, and the sludge removed from the ponds. Also see Response to Comment B9-10.

It is correct that the CMA Ponds at the Hofer Site and AIPS at Spooner's Mesa Alternatives are predicted to produce nonhazardous daily sludge. This is because these two alternatives would not require the use of additives in the primary process, which would therefore operate as a conventional primary process, not advanced primary. The amount of solids removal and sludge produced from the conventional primary process would be less than for the advanced primary process, and the predicted toxicity would also be less (see Appendix B-3 of the DSEIS). Because more of the solids, including toxic compounds, would enter the AIPS and the CMA systems, these systems would collect more of the solids in the sludge that accumulates in the bottom of the anaerobic pits and final settling pond. This sludge will undergo decomposition and stabilization for several years before it must be removed. The decomposition process will reduce the sludge volume. When the sludge is removed, it is predicted to be hazardous and require handling as such. It will not require additional treatment to stabilize the pathogens in the sludge.

B10. Tijuana River Valley Equestrian Association

B10-1. The comments regarding support for secondary treatment and opposition to the ponds alternatives (CMA Ponds at the Hofer Site and AIPS at Spooner's Mesa) are acknowledged. In reference to concerns raised about expandability and odor, see General Responses 1 (Expandability) and 3 (Odor). The lead agencies selected the CMA Ponds at Hofer Site as the preferred alternative.

B10-2. See the updated Appendix A2 of the DSEIS on the pretreatment program in Mexico that is included in Chapter 3 of the FSEIS regarding the pretreatment program in Mexico. Also see General Response 2 for the response to issues of toxic spikes (and their impact on treatment processes) and the pretreatment program.

The amount of sludge generated from the activated sludge alternatives and the truck trips associated with the sludge will not impact traffic and public safety in the United States. These impacts will occur in Mexico only because the trucks will enter and exit the SBIWTP directly onto International Avenue in Mexico through a special gate constructed for this purpose. The truck trips will occur at night when traffic is low. Mexico has selected a sludge disposal site in Mexico (see Section 3.7.6 of the DSEIS, and Section 3.1.4 and Appendix M of the Final SEIS).

B10-3. The concern for pathogens and toxic compounds is acknowledged. Both pathogens and toxic compounds in the influent and effluent of the Preferred Alternative will be monitored continuously in accordance with the discharge permit for these characteristics. Monitoring for pathogens will consist of coliform testing and measurement of enterococcus bacteria. Pathogen monitoring is not required by the NPDES permit at this time. Coliform monitoring is considered the best method for determining the pathogen level in wastewater based on the presence of a representative type of bacteria. Enterococcus monitoring is an effective supplement for pathogen monitoring in ocean water.

Effluent pathogen levels following secondary treatment are predicted to fall below a level of impact to human health in those areas of the ocean where humans have direct contact with the water (i.e., kelp beds, the surf, and beaches). If ongoing monitoring should indicate that pathogen levels are exceeding permit limits, the effluent will be disinfected until subsequent monitoring demonstrates that disinfection is not needed. The location of such an exceedance would be the areas closest to the outfall, such as in kelp beds, but not the coastal zone.

The City of San Diego, State of California, and the United States EPA are committed to assisting DGE with developing, implementing, and enforcing an industrial pretreatment program in Tijuana. The objective is to institute controls on industrial discharges that will ensure that an acceptable quality of wastewater will be received at the SBIWTP and that the SBIWTP effluent will meet the NPDES permit limits. The SBIWTP will be operated and perform in accordance with United States standards for effluent discharge and worker health and safety. The United States' measures described in the DSEIS and FSEIS will safeguard the health and safety of the local citizens with respect to dry weather flows (see Section 1.4 of the DSEIS). Wet weather flows above 25 mgd will not be treated at the SBIWTP; however, the industrial constituent of these flows would be reduced through the industrial pretreatment program, thereby reducing exposure by the local citizens. See Chapter 3, Section 3.1.2 and General Response 2 of the FSEIS for an update on the pretreatment program in Mexico.

B10-4. The lead agencies do not agree that the SBIWTP is doomed to failure. The SBIWTP is operating as designed, which is to reduce the level of waste solids and BOD to primary treatment levels as defined by the Clean Water Act (see Chapter 3 and Chapter 5 of the DSEIS). The fact that some industrial wastewater constituents are removed at the advanced primary SBIWTP is an added benefit. The approach to wastewater treatment in Mexico is the same for the United States where industrial pretreatment is the responsibility of the generator. In accordance to Minute 283, Mexico is committed to establishing an effective pretreatment program in Tijuana (also see Section 1.2.3.2 of the DSEIS for a discussion of Minute 283). The SBIWTP was not intended to treat industrial wastewater constituents, which are best handled by a pretreatment program in Tijuana (see General Response 2). Industrial wastewater treatment is not performed at a public wastewater treatment plant because the cost of treating industrial constituents would be substantially higher and would have to be borne by all of the tax or rate payers. Similarly, it will be the responsibility of industrial waste generators in Tijuana to bear the cost of treating their own industrial wastewater discharges. See Response B10-3.

Although the parallel conveyance system was not a subject of this SEIS, this system will assist in the protection of the local residents of the Tijuana River Valley by enabling the

canal system to convey wastewater more reliably from Tijuana to San Antonio de los Buenos Wastewater Treatment Plant. Regarding canyon flows, the lead agencies have constructed five canyon collectors in the United States that capture uncontrolled canyon flows. Also see Response A11-8.

B11. Citizens Revolting Against Pollution

B11-1. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative. The rationale for this decision is discussed in Section 1.3 of the FSEIS.

4.5 Responses to Individuals' Comments

C1. Anderson, Janet and Glascock, John

C1-1. In reference to wastewater treatment at the SBIWTP, see General Response 2. The comment of support for the pond treatment alternatives is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C2. Archer, Karen

C2-1. In reference to wastewater treatment at the SBIWTP, see General Response 2. The commentor's support for the pond treatment alternatives is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Through analysis performed prior to the DSEIS, the lead agencies considered all reasonable and foreseeable alternatives in accordance with NEPA. These alternatives are discussed in Section 1.5 of the DSEIS. Those alternatives considered but not carried forward for further consideration are discussed in Section 1.6 of the DSEIS. Please also see the Response to Comment B1-1 for a discussion of reasonable and foreseeable alternatives.

C3. Bailis, Robyn

C3-1. The commentor's support for the pond treatment alternatives is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C4. Beeman, Daniel

C4-1. In reference to the comment about the recent performance of the SBIWTP, see General Response 2. The lead agencies share the author's concern for and need to prevent other sources of pollution, including pollution from the City of San Diego Convention Center. Because the focus of the DSEIS is to evaluate alternative treatments for Tijuana influent, a discussion of pollution from the Convention Center would not meet the purpose and need of this document. The agency that regulates this issue is the Regional Water Quality Control Board.

C5. Boulware, Sylvia

C5-1. The commentor's support for the pond treatment alternatives is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The discharge will comply with the NPDES permit conditions. Discharge from the SBOO will be conducted in accordance with the conditions of the NPDES permit.

C6. Boyer, Megan

C6-1. The commentor's support for the CMA pond treatment alternative and the ranking of evaluative criteria are acknowledged. EPA and USIBWC, the lead agencies, have selected

the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C7. Buffett, Brad

C7-1. The commentor's support for the CMA pond treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the Final SEIS.

C8. Collier, Rachelle, et. al.

C8-1. The commentors' support for the CMA pond treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C9. Censor, Alexander

C9-1. Comment acknowledged. In reference to the comment about the performance of the SBIWTP, see General Response 2. Also see Section 3 of the FSEIS.

C10. Cheritarese, Marcus

C10-1. The commentor's support for the CMA pond treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C11. Cinciarelli, Kasey

C11-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Industrial discharges to Tijuana are regulated by DGE. The lead agencies share the author's concern regarding the preliminary industrial pretreatment program in Tijuana. Please see General Response 2 and Section 3.1.2 of the Final SEIS. Regarding the author's additional comment that the water should be treated to the highest level possible, after implementation of the Preferred Alternative, the CMA Ponds at the Hofer Site, effluent from the SBIWTP will comply with all applicable water standards, including the Clean Water Act and California Ocean Plan Standards.

C12. Cooper, William

C12-1. Comment acknowledged that the author supports the CMA Pond at the Hofer Site Alternative. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C13. Cruickshank, Jay

C13-1. The commentor's support for a pond treatment system is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C14. Davies, Jeanne

C14-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see General Response 2.

C15. Davies, Shannon

C15-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Comment acknowledged regarding the author's concerns for human health and use of toxic chemicals in Mexico. In reference to testing at the SBIWTP, the EPA and USIBWC support the efforts of the State of California and the City of San Diego to assist Mexico in implementation of an industrial pretreatment program. The acute toxicity test, in which fathead minnows are used, is not a dioxin-limit test. See General Response 2 and Section 3.1 of the FSEIS for a discussion of the toxicity and the pretreatment program in Mexico. Also see General Response 3 for a discussion of odors.

C16. Demers, Paul

C16-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged.

The DSEIS does not specify which alternative will be chosen as the Preferred Alternative, and does not state that there are plans to pump wastewater offshore. The alternatives evaluated in the DSEIS discuss methods of primary and secondary treatment of wastewater from Mexico. The potential risk to marine life, and human health and safety are discussed in Sections 3.1, 3.2, and 3.7 of the DSEIS, which states that there will be no significant impact to the marine environment or human health and safety. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C17. Duncan, Edward

C17-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

According to Minute 283, the conveyance and disposal of sludge from the SBIWTP will be the responsibility of Mexico. Mexico recently published a final Phase II report that discusses and evaluates sludge disposal options. Any decisions concerning the reuse for or the creation of a market for sludge would be the decision of Mexico as a sovereign nation. See Section 3.1.2 of the FSEIS.

C18. Evans, Bill

C18-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C19. Fayman, Lana

C19-1. EPA and USIBWC, the lead agencies for the SEIS, share the commentor's concerns for improving the quality of effluent that is discharged into the ocean. The NPDES permit conditions with which the leads will comply are set by the State Water Resources Control Board. The California Ocean Plan standards are also established by the State. For a discussion of pretreatment and toxicity, see General Response 2. The lead agencies have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C20. Fidel, Bradley

C20-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. For a discussion of pretreatment and toxicity, see General Response 2.

C21. Frances, Dave

C21-1. See Response to Comment B9-1 and D12-1.

C22. Gilgun, Michael

C22-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C23. Gookin, Edwin

C23-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C24. Gorelik, Max

C24-1. The United States and Mexico have a long history of cooperation and dialogue regarding the collection, treatment, and disposal of wastewater from Tijuana that has historically entered the Tijuana River Valley in the United States. The agreements that document the decisions made about this issue are provided in Minutes 270, 283, and 296, which are discussed in Section 1.2.3 of the SEIS. Copies of these Minutes are in Appendix A of the DSEIS. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C25. Grauer, Stuart

C25-1. Comment acknowledged that the author supports secondary treatment. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C26. Gray, Kari

C26-1. The lead agencies, EPA and USIBWC, have selected the CMA Ponds at Hofer Site as the Preferred Alternative (see Section 1.3 of the FSEIS). See General Response 2.

C27. Gurol, Mirat

C27-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The Executive Summary is correct as written regarding the digester pits being an anaerobic system because they are submerged, and no aeration occurs in that zone. See Figure 1.5-9 of the DSEIS, which shows the submerged pits.

C28. Hamerman, Lawrence and Catherine

C28-1. The commentors' support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C29. Hanson, Bob

C29-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. The SBIWTP is not designed to treat wet-weather flows from Tijuana. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see Response to Comment C24-1 regarding cooperation between the United States and Mexico.

C30. Hanson, David

C30-1. The commentor's support for the CMA pond treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C31. Heppard, David

C31-1. The commentor's support for the CMA pond treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see Response to Comment C24-1 regarding cooperation between the United States and Mexico.

C32. Hesse, Chris

C32-1. The commentor's support for the CMA pond treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C33. Hickman, Erin

C33-1. A more detailed discussion of the alternatives considered in the DSEIS is also available on the internet. The address is:

www.epa.gov/Region09/water/SBIWTP/seis2.pdf.

Look under "Draft Long Term Options" in Chapter 1, Section 1.5, Alternatives Considered in Detail. Comment acknowledged that the author supports the pond treatment. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C34. Howell, Robert

C34-1. EPA and USIBWC agree with the commentor that protecting the environment is of paramount concern. All of the alternatives evaluated in the DSEIS would result in an improvement to the environment over existing conditions. The DSEIS has been prepared to evaluate critically and decisively the alternatives for treating wastewater at the SBIWTP. Throughout this process, EPA and USIBWC have welcomed public input. As a result of this input, EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C35. Jaffee, James

C35-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C36. Jaffee, Michele

C36-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C37. jhorowit@millennianet.com

C37-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C38. Johnson, Clifford

C38-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C39. Kent, Eileen

C39-1. The text of this comment letter is identical to that of C11-1. See the Response to Comment C11-1.

C40. King, Paulette Sue

C40-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. In reference to the comment about the recent performance of the SBIWTP, see General Response 2. The lead agencies agree that using the ocean as a toxic dump is unacceptable. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C41. Knox, Jeffrey

C41-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. In reference to the commentor's attachment to his comment letter, the quality of water at the

30-foot depth from shore is not predicted to be affected by the discharges associated with implementing any of the alternatives (see Appendix C and Section 3.13 of the DSEIS). In addition, implementing any of the alternatives will result in positive impacts to public health and safety of the population, including surfers (see Section 3.7 of the DSEIS).

C42. Marasco, Patrick

C42-1. The commentor's support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C43. Neff, Eric, Denise, and Erica

C43-1. The commentors' support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C44. Nelson, Chet and Yvonne

C44-1. The commentors' support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The issues raised by the commentor have been addressed in the Supplement to the 1996 Interim Operation SEIS. Also see Section 3.1.3 of the FSEIS on dioxin. See General Response 2 for a discussion of toxicity. Additionally, the commentor's concerns about Point Loma are noted.

C45. Neri, Jim

C45-1. The commentor's support for the AIPS at Spooner's Mesa Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C46. Newgard, Bruce and Constance

C46-1. Comment acknowledged. The lead agencies, USIBWC and EPA, have selected the CMA Ponds at Hofer Site as the Preferred Alternative. Additionally, as discussed in Section 1.2.3.3 of the DSEIS, the United States and Mexico have negotiated an agreement to share the cost of the SBIWTP. This agreement, called Minute 296, specifies the distribution of costs for construction, operation, and maintenance of the SBIWTP between the United States and Mexico. Also see General Response 2 for a discussion of toxicity.

C47. Noel, Crysti

C47-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see General Response 2 for a discussion of toxicity and pretreatment.

C48. Oberndorfer, Ron

C48-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see General Response 2 for a discussion of toxicity and pretreatment.

C49. O’Leary, Cathy

C49-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see General Response 2 for a discussion of toxicity and pretreatment.

C50. Ostrye, Maureen

C50-1. The commentor’s support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C51. Papworth, Carol

C51-1. The commentor’s support for the CMA Ponds at the Hofer Site Alternative is acknowledged. The DSEIS and FSEIS have been prepared because circumstances have changed since publication of the 1994 FEIS that require consideration of additional factors, which are discussed in the DSEIS in Section 1.4, Purpose and Need. The SEIS was not prepared because of the operation of the SBIWTP in 1997. In reference to the comment about the recent performance of the SBIWTP and toxicity, see General Response 2. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C52. Paul, Carolyn

C52-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C53. Penaligon, Jim

C53-1. The commentor’s support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C54. Pray, Wayne

C54-1. The commentor’s support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C55. Puzo, Joseph

C55-1. The commentor’s support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C56. Renteria, Gracie

C56-1. Comment acknowledged that the author opposes the pond treatment. In preparing the SEIS, consideration was given to recreational uses of the area. These are discussed in Section 2.8 and 3.8 of the DSEIS. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3

of the FSEIS. The pond site will be fenced to prevent public access, and this will be included as part of the pond design.

C57. Romo, Oscar

C57-1. The commentor's concerns regarding involvement of community members from Mexico is acknowledged. The United States and Mexico have been working together to solve the water contamination problem resulting from untreated flows from Mexico. This working relationship has resulted in several international agreements that have and will continue to improve the water quality in the United States (see Appendix A of the DSEIS). As a sovereign nation, Mexico has its own processes for community input and participation.

C58. Rotter, Thomas

C58-1. Comment acknowledged that the author supports the pond treatment due to the heavy metals and acids generated by the maquiladoras in Mexico. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. In addition, please see General Response 2 and Section 3.1.2 of the DSEIS for a discussion and explanation of the pretreatment program.

C59. Shamlou, Shawn

C59-1. Comment acknowledged that the author supports the CMA Ponds at the Hofer Site Alternative. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The lead agencies and United States and Mexican governments support the author's desire to build the wastewater treatment plant as quickly as possible. The CMA Ponds at the Hofer Site Alternative is the most expeditious alternative to build once the environmental review process is complete.

C60. Shaw, Daniel

C60-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative and the AIPS System at Spooner's Mesa Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C61. Shively, Ellen

C61-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C62. Smith, Zack

C62-1. The commentor's support for the CMA Ponds at the Hofer Site Alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C63. Sprofera, Eugene

C63-1. The 1994 FEIS addresses potential impacts from flooding. It is not clear what the commentor is referencing by stating “resulting flows experienced recently at the New Plant.” No flooding has occurred at the SBIWTP.

Comment acknowledged that the author supports the pond treatment at the Hofer Site. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C64. Stabile, Mary Ann

C64-1. The commentor’s concerns about public health and safety are acknowledged.

C65. Tucker, Bryan

C65-1. The commentor’s support for a ponds treatment alternative is acknowledged.

EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C66. Vidali, Aldo and Viktoria

C66-1. Comment acknowledged. Please refer to General Response 2 for information about acute toxicity.

C67. wahinej@aol.com

C67-1. The commentor’s support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C68. Wandenberg, J.C.

C68-1. Comment noted.

C69. Wichmann, Kathy

C69-1. Comment acknowledged that the author supports secondary treatment. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C70. Woodward, Brian

C70-1. The commentor’s support for the AIPS treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C71. Zak, Rich

C71-1. The commentor’s support for a ponds treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C72. (unknown), Jackie

C72-1. The commentor's support for a secondary treatment alternative is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C73. (anonymous)

C73-1. Comment noted.

C74. (illegible), J.

C74-1. Comment acknowledged that the author supports the pond treatment. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C75 through C118

While reviewing the comment cards from the Coronado Middle School supporting the secondary treatment method, it became apparent that many of the commentors raised similar and overlapping issues. Consequently, similar comments or questions are grouped by comment and are answered below, rather than repeating similar responses.

C75 through C118—General Response to Secondary Treatment Method

Comment acknowledged that Cards C75 through C118 support the ponding secondary treatment method to safeguard the public health, environment, public beaches, water quality, and economy of south San Diego and Tijuana. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The treatment of wastewater at the SBIWTP will not result in dumping toxins into the marine environment. Discharges from the SBOO will be conducted in accordance with the conditions of the NPDES permit and with the provisions of the California Ocean Plan.

C119 through C126

While reviewing the comment cards from EARTH at Grossmont College supporting the CMA ponding secondary treatment method, it became apparent that many of the commentors raised similar and overlapping issues. Consequently, similar comments or questions are grouped by comment and are answered below, rather than repeating similar responses.

C119 through C123, C125, and C126—General Response to CMA Ponding

Secondary Treatment Method. Comment acknowledged that Cards C119 through C123, C125, and C126 support the ponding secondary treatment method to safeguard the public health, environment, public beaches, water quality, and economy of south San Diego and Tijuana. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. The treatment of wastewater at the SBIWTP will not result in dumping toxins into the marine environment. Discharges from the SBOO will be conducted in accordance with the conditions of the NPDES permit and Ocean Plan requirements.

C124-1. Comment acknowledged that the author supports the CMA ponding treatment. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Regarding the author's questions about the source of wastewater, Section 1.2.1 of the DSEIS discusses the history of contamination in San Diego from San Diego sources. Additionally, Section 1.2.3 discusses the international agreements that document the decisions made between the United States and Mexico for collecting, treating, and disposing of wastewater from Tijuana that has historically entered the Tijuana River Valley in the United States.

C127 through C281

While reviewing the comment cards supporting the CMA ponding secondary treatment method, it became apparent that many of the commentors raised similar and overlapping issues. Consequently, similar comments or questions are grouped by comment and are answered below, rather than repeating similar responses.

C127 through C281 – General Response to CMA Treatment Method. Comment acknowledged that Cards C127 through C281 support the CMA ponding secondary treatment method to safeguard the public health, environment, public beaches, water quality, and economy of south San Diego County and Tijuana. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C141, C143, C145, C146, C165, C178, C183, C184, C190, C191, C195, C221, C241, C249, C262, and C265—General Concern for Ocean Environment. The lead agencies are aware of the environmental, fiscal, recreational, public health and safety, and aesthetic impacts associated with the historic discharge of raw wastewater from Tijuana and the effects this has on Imperial Beach residents, as well as residents and visitors to San Diego County in general. The preparation of this SEIS is intended to address directly these concerns and identify the alternative that is most protective of both the environment as well as address the concerns raised by the citizens of the City of Imperial Beach and other concerned parties. As a result of the public input and the analysis contained within the DSEIS, the EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

C167, C173, C174, C218, C238, C244, C259, C264, and C268—Support for CMA Ponding Secondary Treatment. Support for the CMA ponding secondary treatment method is acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. This alternative is protective of public health and safety, as well as the environment, and was chosen in consideration of public input. The Preferred Alternative complies with the NPDES permit for the project and the Ocean Plan standards. Other alternatives that were considered but eliminated from further consideration include tertiary treatment. Please see Section 1.6.2 of the DSEIS for a discussion of why this alternative was not considered a reasonable and feasible method for substantially accomplishing the objective of the project purpose. Please see Table ES-2 for the schedule for completion of the proposed project.

C147, C157, C177, and C229—Concern for Future Generations. The lead agencies have considered the potential impact to surfers and other recreational users of the beaches and marine waters. The ocean model estimated the concentrations of toxic compounds and pathogens in the coastal zone (beaches and surf) and kelp beds. The Preferred Alternative, CMA Ponds at the Hofer Site Alternative (see Section 1.3 of the FSEIS) is predicted to comply with the Ocean Plan standards for the protection of human health (see Appendix C of the DSEIS), thereby improving the beach and marine environment for future generations.

C 212, C231, and C 238—Miscellaneous Comments. In response to Comment C212, the author has been added to the mailing list. Regarding Comment C231 about toxic shock (*sic*) loads, please see the discussion of toxicity and toxic spikes in General Response 2.

In response to Comment C238 regarding environmental requirements in Mexico, the lead agencies support the author's concern for the environment on both sides of the border. To protect, improve, and conserve the environment of the border region, the U.S. and Mexican governments have created the Border Environment Cooperation Commission and the North American Development Bank. These two organizations were created to develop, certify, and finance environmental infrastructure projects. Additionally, the Border XXI Program will coordinate with the Commission for Environmental Cooperation (CEC), created under the North American Free Trade Agreement (NAFTA), to promote environmental cooperation throughout North America.

4.6 Responses to Public Hearing Comments

D1. Mr. Inzunza

D1-1. The commentor's opposition to the ponds alternatives is acknowledged. Odors are discussed in General Response 3. The area in the vicinity of the SBIWTP is characterized by existing and planned industrial uses and has been historically zoned for these uses. The construction of the SBIWTP is complete and the City of San Diego's South Bay Water Reclamation Plant is under construction. The focus of this DSEIS and FSEIS is to evaluate the impacts of the alternative treatment technologies at the existing facility.

Throughout the preparation of this SEIS, the United States has worked closely with the Mexican Government and has apprised Mexico of the status of the alternatives evaluation. Mexico's comments on the DSEIS, including comments on the alternatives, have been incorporated into the FSEIS (see Chapter 3 of the FSEIS). The public comment on the DSEIS and the alternatives considered for analysis revealed strong opinions from many parties in support of the ponds alternatives.

D2. Mr. Letter

D2-1. Both the United States and Mexico have been working together to implement a wastewater treatment system that is protective of public health and safety, and that is protective of the environmental resources in the San Diego-Tijuana area. (See Response to Comment A3-14 for a discussion of the funding options associated with the SBIWTP). The responses to written comments submitted by this commentor are in Response to Comments A15-1 through A15-12.

D3. Mr. Simmons

D3-1. The sections of the DSEIS that discuss monitoring data are accurate as written. When the DSEIS was published in January 1998, the results of the SBIWTP monitoring data were not available. Data from the 1997 and 1998 monitoring are now available and discussed in Chapter 3 of the FSEIS. The 1997 and 1998 monitoring data indicate that effluent concentrations are generally not as high as predicted in the DSEIS (see Tables 5.8 through 5.11 of Appendix C). It is not possible, however, for the monitoring data to reflect all fluctuations in the effluent from the plant. Toxicity monitoring is conducted to assess impacts in accordance with the provisions of the NPDES permit. The acute toxicity investigation that the lead agencies are currently pursuing will continue in an effort to determine the source of the acute toxicity that is occurring. The exceedance of acute toxicity levels specified in the NPDES permits is occurring despite compliance of individual constituents with NPDES permit limits. The lead agencies are currently investigating the causes of this acute toxicity. See General Response 2.

The lead agencies agree that the solids loading in the influent to the SBIWTP was unusually high for the months of November and December 1997. The solids loading was outside the range of solids conditions that the treatment plant was designed to handle. This does not, however, make the SEIS inadequate nor does it render the design of the SBIWTP inadequate. Consistent with the design approach used for wastewater treatment plants throughout the United States, the SBIWTP was designed to operate and perform as required

for a specific range of influent conditions that represent 90 percent of the influent conditions that could occur. The record rainfall intensity in November and December flushed the sewers and Tijuana River channel in Tijuana, bringing a large quantity of sand into the treatment plant. The high sand loading is not expected to occur during most years nor is it the solids loading for which the plant was designed. The SBIWTP was designed to handle dry weather flows and only limited wet weather flows. The USIBWC operated the SBIWTP for 5 months in 1997 and is continuing to obtain data on the influent flow characteristics. Despite the high sand loadings, the SBIWTP performed extremely well in removing over 90 percent of the solids and producing an effluent solids concentration that was comparable to the effluent solids produced during September and October, both of which were drier months.

D3-2. Chlorination and dechlorination are adequately discussed and evaluated in Appendix B4 of the DSEIS (Evaluation of Effluent Coliform Levels and Disinfection for Ocean Discharge). The analysis first considered the level of pathogens discharged by each of the alternatives and the subsequent need for disinfection. All alternatives except the AIPS at Spooner's Mesa and the CMA Ponds at the Hofer Site Alternatives were found potentially to require disinfection on an intermittent basis. An analysis of disinfection methods included ozonation and chlorination/dechlorination as specified in the settlement agreement (*San Diego Chapter of the Sierra Club, et. al. V. International Boundary and Water Commission, U.S. Section, et. al.* Case No. 94-920-J (RBB), July 12, 1995).

Chlorination/dechlorination was found to be the most reasonable approach to disinfection because the system is a proven technology that is widely used throughout the United States. Documented impacts to aquatic life by chlorination were disclosed in Appendix B4. The majority of impacts would result if chlorination is not followed by dechlorination. Dechlorination would occur following chlorination whenever disinfection is required, regardless of the alternative selected. Secondary impacts, caused by chlorine combining with organic compounds, will be monitored following dechlorination to ensure that the discharge limits are also met for these compounds. If disinfection is performed on a regular basis and if chlorination causes exceedances of the discharge limits for chlorinated compounds, then the USIBWC would evaluate the use of ozonation for long term disinfection. This approach adequately addressed the human health and environmental impacts by chlorination and provides protection to the level required by the Ocean Plan standards and NPDES permit.

D3-3. The discussion in the DSEIS of the pretreatment program in Tijuana is accurate as written. The 1995 settlement agreement referenced in the comment states that the long term SEIS will address "new information concerning Mexico's progress in implementing sludge disposal and industrial pretreatment programs." (*San Diego Chapter of the Sierra Club, et. al. V. International Boundary and Water Commission, U.S. Section, et. al.* Case No. 94-920-J (RBB), July 12, 1995, page 3, lines 14-16). At the time the DSEIS was published (January 1998), the DSEIS text on that program (Section 3.1.2 of the DSEIS) was the most updated information on the progress of the new program. In the interim since the DSEIS was made available, additional activities have occurred in the pretreatment program; and these activities are summarized in Chapter 3 of the FSEIS. The USIBWC, EPA, State Water Resources Control Board, CESPT, and the City of San Diego are assisting the Mexican Department of Ecology to develop a pretreatment program. The Department of Ecology staff are receiving training

on monitoring and enforcement. Additional information on the development of the pretreatment program is provided in General Response 2.

The DSEIS provided analysis of marine and human health impacts in consideration of the existing status of the pretreatment program (see Chapter 3 of the DSEIS). None of the alternatives was found to have any impacts on human health as a result of toxic compounds found in the discharged effluent. Impacts to marine biological resources are evaluated in Appendix D, Ecological Risk Assessment.

D3-4. Dr. Jenkins' declaration, including his comments that discharge of effluent through the SBOO would cause "significant injury" at the discharge point is not supported by the analyses conducted for the DSEIS. The effect of the discharge from the SEIS alternatives was evaluated in Appendices C and D of the DSEIS. In addition, a response to Dr. Jenkins' declaration is found in the Administrative Record (submitted by Steven L. Costa, Ph.D. in Oceanography from the Scripps Institute of Oceanography. He is currently an independent consultant with Glatzel da Costa and has more than 10 years of experience designing and modeling numerous marine outfall diffusers.). See Appendix E for a discussion of potential impacts to aquatic life in the vicinity of the SBOO. The discharge would be in conformance with the provisions of the NPDES permit and the California Ocean Plan limits. No impacts to human health caused by pathogens are expected to occur because the discharge will be disinfected if deemed necessary. The level of pathogens discharged by all alternatives is not great enough to reach the surf and coastal zone at levels that are considered an impact to human health, even without disinfection. Similarly, no impact is predicted for the surf and coastal zone of Imperial Beach. These predictions are based on ocean modeling that included consideration of the South Bay "gyre." Because all alternatives will receive disinfection as needed, none of the alternatives would have an impact on human health. (See Section 3 of the DSEIS for a summary of impacts to marine biological resources and human populations.)

D3-5. Cumulative impacts are discussed in the DSEIS in Chapter 4 of the DSEIS.

D3-6. The comments on the impacts from discharges of advanced primary effluent at the Point Loma Wastewater treatment Plant are acknowledged. Unlike the Point Loma facility, the SBIWTP will not be discharging advanced primary-treated effluent after the CMA ponds are constructed. The Advanced Primary alternative has not been selected as the Preferred Alternative. The lead agencies selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is a secondary treatment alternative (see Section 1.3 of the FSEIS). Please refer to the Response to Comment B3-2.

D4. Mr. Sirota

D4-1. The commentor's written comments are found in the Response to Comments B9-1 through B9-15. The lead agencies concur with the summary of the Focus Group's consensus on selecting secondary treatment (see Section 2.3 and Appendix I of the Final SEIS). In reference to the Focus Group members' preference for either the activated sludge or the CMA ponds, the intent of the workshop was to rank criteria and, if possible, identify a preferred alternative. The intent was not, however, to select an alternative by majority vote. As a result, some members who preferred one alternative over another were in the majority but each preference was given an equal weight and forwarded to the Policy Committee.

D4-2. The commentor states that the ocean study is flawed because it is based on an average day and the reduced sunlight on short winter days would result in lower die-off of coliform bacteria than assumed.

The commentor makes a valid point concerning the effect of sunlight on bacterial die-off. In theory, the effect postulated by the commentor is correct. Shorter winter days result in lower die-off rates. The shortest day of the year at latitude N32°42' is 10 hours and the longest day is 14 hours between sunrise and sunset (the average day would be about 12 hours of daylight). The value used to estimate bacterial die-off, $T_{90} = 8$ hours, however, is considered a reasonable, appropriate, and conservative value. The following points are important in considering the value used for the ocean model simulations and predictions:

- Bacterial die-off (T_{90} values) depends on a number of factors, of which sunlight is only one. Other factors include salinity, temperature, predation, flocculation/sedimentation, abrasion, and others. Therefore, a small reduction in daylight hours will affect the overall die-off substantially less than general variability in the system.
- The depth of discharge affects the die-off rate (in part because of the reduced light penetration). The T_{90} value of 8 hours is twice the value used for surface waters in the modeling done for the 1996 Interim Operation SEIS. Therefore, the value of 8 hours is conservative, and is expected to under-predict substantially the die-off, for application to any portion of the plume transported into near surface waters.
- Although decreased light will reduce die-off in the winter compared to the summer, the effect would be small and probably unmeasurable at the depth of the plume, other environmental factors such as decreased temperature would increase the die-off rate and tend to counteract the effect of lower light.
- The average value chosen for T_{90} is intended to account for variability in environmental factors such as seasonal and diurnal daylight duration, cloud cover, water column turbidity, and other factors and provide a reasonable, probably conservative, value of bacterial concentrations. The diurnal cycle in T_{90} (which is the same used in the previous modeling for the Interim SEIS) was constructed based on an average value of 8 hours to provide a more realistic diurnal effect in the model. The average value was not based on a predetermined diurnal cycle for an average day as implied by the comment.

Although the comment is technically correct in theory, the effects of length-of-day are already considered in the model in the inherent variability in the environment. The die-off rate used is intended and expected to provide realistic and somewhat conservative (under-prediction of bacterial die-off) results.

D4-3. The lead agencies share the commentor's concerns about possible impacts to the surf zone and the swimming zone. The evaluation of impacts on the marine environment that was conducted as a part of this SEIS (see Appendix C, Effluent Discharge and Dispersion through the South Bay Ocean Outfall) does not predict any impacts to the surf zone and swimming zone as a result of SBOO discharge associated with implementing any of the alternatives (see Section 3.1 and Appendix C of the SEIS). The DSEIS presents the findings of the analysis conducted in Appendix C. The DSEIS does not, however, state that the CMA ponds are the best treatment alternative for creating the highest quality effluent. None of

the alternatives evaluated in the DSEIS (with the exception of the less-than-full secondary treatment alternatives) results in a unmitigible, significant impact to marine water quality (see Appendix C of the DSEIS). After careful consideration of the evaluation conducted for the DSEIS and review of the comment letters received from the public, the lead agencies have determined that the CMA Ponds at the Hofer Site Alternative best meets the stated purpose and need for treatment of influent from Tijuana. The Preferred Alternative is discussed in Section 1.3 of the FSEIS.

D4-4. The comment on the document referenced as “Water Pollution Information on the Use of Alternative Wastewater Treatment Systems” is acknowledged. This report was not submitted for the record by the commentor.

D5. Ms. Ricks

D5-1. The commentor’s opposition to the ponds treatment alternatives is noted. See General Response 1 and Response to Comment A15-5 for a discussion of the acreage requirements for the ponds systems. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. Also see Response to Comment A15-5.

D5-2. The commentor’s concerns about the activated sludge process are acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D6. Mr. Spangler

D6-1. The comment is acknowledged. It is unclear from the comment what earlier studies are being referenced. The EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D6-2. Acute toxicity exceedances at the SBIWTP can be addressed through an effective pretreatment program in Mexico as well secondary treatment. The SBIWTP has dealt effectively with Table A and Table B constituents. See General Response 2 for a discussion of toxicity.

D6-3. The comment on odors is acknowledged. Please refer to General Response 3 for additional discussion of this concern. See General Response 2 for a discussion of toxic upsets.

D7. Mr. Wessig

D7-1. The use of activated sludge treatment plants without industrial pretreatment is not experimental. Activated sludge plants operated for many years in the United States before industrial pretreatment programs were established. The experience of operating under those circumstances has partially provided the basis for the discussion of impacts identified in Chapter 3 of the DSEIS.

It is correct that there are wastewater treatment systems in operation that have primary sedimentation followed by a pond system. For additional response to this comment, please

refer to the response to Comments A15-4 and A15-5. Tijuana is implementing an industrial pretreatment program (see General Response 2).

D7-2. Please refer to General Response 1 for a response to the issue of expandability.

D7-3. Space and location are not considered a constraint to implementing the alternatives that would use the Hofer site. Please refer to General Response 1 for additional response to this issue.

D7-4. The comment is acknowledged regarding odor sources in Tijuana near the SBIWTP. Regarding the generation of odors from toxic upsets, this issue is discussed further in General Response 3.

D8. Mr. Gomez

D8-1. The commentor's opposition to the ponds treatment alternatives is acknowledged. The lead agencies concur that secondary treatment will produce cleaner effluent than primary treatment only. Please refer to General Response 1 regarding the comment on land consumption.

The pond treatment systems are not predicted to produce nuisance odors that would affect the community. Air modeling was conducted for the CMA Ponds at the Hofer Site Alternative and is predicted to produce less odor than the activated sludge alternatives (see Appendix B6, Hydrogen Sulfide/Odor Studies, of the DSEIS). Please refer to General Response 3 for additional response to this comment on odors.

EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D9. Mr. Kimura

D9-1. The commentor's preference for the ponds treatment alternatives is acknowledged. It will take several years for Tijuana to achieve a pretreatment program that is comparable in effect to the City of San Diego pretreatment program. See General Response 2 for a discussion of the status of Mexico's pretreatment program. The lead agencies concur with the comment that ponds treatment is better able to handle toxic spikes than other alternatives (see Section 3.1.3 of the DSEIS and General Response 2). The comment is acknowledged regarding an absence of nuisance odors from a pond visited on a trip sponsored by the lead agencies to the Coachella ponds. In reference to odors, see General Response 3. For a discussion of expandability, see General Response 1. The EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D10. Mr. Claycomb

D10-1. The comments on the role of politicians is acknowledged.

D11. Mr. Moser

D11-1. Please refer to the responses to Comments A15-4, A15-5, and D7-1.

D12. Mr. Francis

D12-1. The commentor indicates that the model fails to have realistic boundary conditions for Imperial Beach and discusses four specific issues. Each of these issues is responded to below.

(1) The commentor states that the model does not account for large, late summer waves that create strong northerly littoral currents and bring water to the surface from depths of 20 to 30 feet.

The discharge is approximately 3.5 miles offshore and well outside of the littoral zone. Nearshore littoral circulation (generally contained within the surf zone) will not extend to the location of the discharge. Currents used in the modeling are based on actual current meter observations done throughout the region modeled and include seasonal effects. Therefore, although the general observations of the commentor are correct, they do not apply to the discharge plume, particularly within the first 10 to 100 feet of plume trajectory, where the initial dilution takes place. Following initial dilution, compliance with water quality standards is predicted to be achieved; and the subsequent transport of the discharged material, if it does get into the surf zone, is not an issue of concern.

(2) The commentor states that the model does not adequately account for vertical transport (upwelling) effects caused by : (a) wind and bottom effects and (b) transport of water to the surface by large waves.

The commentor is correct to the extent that the hydrodynamic circulation model is not three-dimensional. The hydrodynamic circulation model is essentially a set of four two-dimensional horizontal (depth averaged) layered models representing transport of the discharge within four ocean layers. The model does not include a parameter for transport between the layers in the water column. However, the initial dilution plume model is three-dimensional and its predictions are applied into each of the various layers. The initial dilution process is very rapid and limited in spatial extent, and the layering of the overall water column circulation model has no effect on the calculation of concentrations within the initial dilution phase. Although subsequent transport within the layers is not vertically mixed between layers, the magnitude of vertical transport is very small compared to horizontal transport. On the time and space scales considered in the simulations, the lack of vertical transport in the circulation model is negligible. The following additional points should be noted in response to the comment:

- The initial dilution plume model accounts for upwelling to the extent that wind and topographically induced vertical upwelling affects the stratification of the water column. Seasonal variations in water column density gradients are accounted for.
- The potential of 50-foot waves in the vicinity of the discharge mixing water throughout the water column (the commentor is referring to breaking waves) is an infrequent event. Although the commentor does not indicate the return period of such an occurrence, it is very likely quite long. In addition, such an occurrence would provide extremely efficient mixing and greatly increase and enhance the dilution of the wastewater plume.

The effects of vertical mixing are accounted for, to the extent required, to assess compliance with water quality standards. Where vertical transport is neglected, the effects are either

very small and appropriately neglected or the effect would be to decrease wastewater concentrations even more than predicted by the models (model is conservative and over-predicts concentrations).

(3) The commentor states that the model truncates lateral transport within layers as the water depth becomes shallower than the layer depth.

The statement made by the commentor is generally correct. The farfield hydrodynamic circulation model, however, is layered and does not account for vertical transport. Therefore, horizontal transport cannot occur in a direction perpendicular to the layer boundary. This formulation does not “truncate” horizontal transport, but it does not allow shoreward transport from deeper layers into shallower layers. However, this is the same effect as discussed above in item (2) and the same responses and conclusions apply to this comment. As described in the response to item (2) above, the effluent is distributed throughout all layers based on the result of the initial dilution plume model. (Note: The referenced figure in the comment is not in the DSEIS or the appendices.)

(4) The commentor states in written comments submitted as part of his public testimony that the DSEIS assumes that because sampling for compliance occurs between 8:00 a.m. and 5:00 p.m., the potential for noncompliance is understated by a factor of three.

The comment appears to refer to the simulation and prediction of noncompliance for bacteriological (coliform) requirements. The DSEIS presents two types of analysis for coliform compliance and one of these is a “short-term” or practical approach with the time of day constraints indicate by the commentor. The other approach was a “long term” or theoretical approach without the time of day constraints. There were other differences between the two methods of analysis. The differences between the two methods and the results of both methods are clearly described in the SEIS. The differences between the two is not a simple multiplier of three, but each alternative and each requirement must be examined in detail, as is done in the SEIS.

D13. Mr. Westling

D13-1. The comment states that the wastewater reaching the plant has a much higher toxic level than what the plant was designed to treat. The plant was not designed to treat toxic wastes. The approach that is considered the best for treating toxic wastes is for industrial dischargers to treat their own wastes in a pretreatment program. The United States is actively supporting the development of a pretreatment program in Tijuana for this purpose. Please see additional information on this topic in General Response 2.

Regarding the exposure to toxic compounds in the ocean from the SBIWTP effluent, modeling was performed to predict the distribution of toxic compounds in the ocean (see Appendix C of the DSEIS). The model predicted that the concentrations of these compounds will quickly be diluted within the vicinity of the discharge point to levels that are not considered hazardous. From a health standpoint, concentrations of these compounds would be negligible in areas where humans are in contact with the ocean (i.e., at kelp beds, surf zones, and along the beaches). See Section 3.1.2 of the DSEIS.

D13-2. The CMA Ponds at the Hofer Site Alternative is the second least expensive alternative and the least expensive secondary alternative (see Appendix B2 of the DSEIS).

The odors are predicted to be slightly less than for an activated sludge treatment plant (see Appendix B6 and Section 3.9 of the DSEIS). The EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS. In reference to odor, the CMA Ponds at the Hofer Site Alternative was modeled and is predicted to produce less odor than the activated sludge alternatives (see Appendix B-6 of the DSEIS). Please refer to General Response 3 for additional response to this comment on odors.

D14. Ms. Niño

D14-1. The lead agencies agree that the residents of Imperial Beach should have input into the process. Also see the responses to Comment Letter A-3.

D15. Ms. Powers

D15-1. The comments on the original design of the SBIWTP and the need to select an alternative that meets secondary treatment standards of the Ocean Plan is acknowledged. In reference to the concern that the ponds treatment is experimental, refer to the Response to Comments A15-4 and A15-5. For the comment on expandability, refer to General Response 1. See Response to Comment D4-1, Chapter 2 and Appendix I of the FSEIS for a discussion of the Facilitated Focus Group workshops.

D16. Ms. Saldaña

D16-1. The lead agencies agree that the United States and Mexican Governments should continue to work cooperatively to address wastewater treatment issues that affect both countries.

D17. Mr. Knox

D17-1. The Preferred Alternative, CMA Ponds at the Hofer Site Alternative, reduces discharges at San Antonio de los Buenos and the Tijuana River. The secondary treatment of wastewater from Tijuana will improve conditions to environmental resources (both marine and terrestrial) in the vicinity of the project and will safeguard public health and safety in the region. The DSEIS evaluates these concerns and addresses environmental impacts in Chapter 3 of the DSEIS. The commentor's preference for the ponds alternative is acknowledged. The lead agencies, EPA and USIBWC, selected the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D18. Ms. King

D18-1. The commentor's preference for the pond alternative is acknowledged. The lead agencies, EPA and USIBWC, selected the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D19. Mr. Hanson

D19-1. The commentor's preference for the CMA Pond Alternative is acknowledged. The lead agencies, EPA and USIBWC, selected the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D20. Mr. Pendergraft

D20-1. The lead agencies, the USIBWC and EPA, have not selected the advanced primary treatment alternative. The comment is acknowledged regarding the cost and treatment ability of the CMA Ponds at the Hofer Site Alternative. See General Response 1 for response to the comment on expandability. The lead agencies, EPA and USIBWC, selected the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

D21. Mr. Chase

D21-1. The general comments on the quality of ocean waters in the San Diego area is acknowledged.

D22. Mr. Puegh

D22-1. The lead agencies, the USIBWC and EPA, have determined that advanced primary treatment alone is not adequate to protect human health and the environment. The Preferred Alternative is the CMA Ponds at the Hofer Site Alternative (see Section 1.3 of the FSEIS) and a waiver process will not be required. See General Response 2 of the FSEIS for response to the comment on the performance of activated sludge and pond systems with regard to toxicity. The comment is acknowledged that industrial pretreatment in Mexico must occur to safeguard the health of the local residents and the environment. The comment is acknowledged regarding expandability (see General Comment 1).

D23. Ms. Watson

D23-1. Cost was not the sole criterion for selecting the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative. See Section 1.3 of the FSEIS for a discussion of reasons for selecting the Preferred Alternative. The commentor's opposition to pond treatment is acknowledged.

D24. Ms. Bailis

D24-1. Both activated sludge and pond treatment technologies are feasible secondary treatment technologies for use at the SBIWTP. The commentor's preference for the pond alternatives is acknowledged.

D25. Mr. Letter

D25-1. As requested, a copy of the transcript for the public hearing was sent to the commentor. Funds have been appropriated by Congress to EPA that may be available for construction of the CMA Pond alternative. The lead agencies are currently seeking Congressional support on using these funds to implement this alternative.

D25-2. See Sections 2.6 and 3.6 of the DSEIS and Response to Comment A15-10 for a discussion of environmental justice. In reference to the historical summary of federal agency actions at the United States and Mexico border, this comment is acknowledged; but these historical references are outside the scope of this SEIS. The comment about populations affected by the SBIWTP is acknowledged.

D26. Mr. Spangler

D26-1. The comment on odors is acknowledged. Please refer to General Response 3 for additional response to concerns about odors. We acknowledge the concern expressed for toxic compounds and the general accumulation of these compounds in warm-blooded mammals from past agricultural practices and other sources.

D27. Mr. Sirota

D27-1. Executive Order 12989, *Federal Actions to Address Environmental Justice Populations and Low-Income Populations* (February 11, 1994) is discussed in Sections 2.6 and 3.6 of the DSEIS. The intent of environmental justice analyses is to determine whether minority and/or low income populations are disproportionately affected by a project compared to the impacts experienced by the general population. The intent is not, however, to determine whether or not a project should be sited in a location that impacts a minority or economically disadvantaged community. Also see Response to Comment A15-10.

D28. Mr. Simmons

D28-1. The lead agencies do not agree that the DSEIS is “totally inadequate” or that reclaimed water is not considered in the DSEIS. In addition to the original purpose and need identified in the 1994 FEIS (see Chapter 1 of the 1994 FEIS), the purpose and need of the Long Term SEIS were to evaluate specific additional elements of this project (see Section 1.4 of the DSEIS). These elements are adequately addressed. Neither the treatment plant project nor the SEIS were developed for the purpose of producing reclaimed water (see Minute 283, Appendix A1 of the DSEIS for the complete text of that Treaty Minute). Reclamation alternatives were considered in the 1994 FEIS (Appendix L of the 1994 FEIS and in the Long Term SEIS (see Section 1.6 of the DSEIS) but were determined not to be feasible for the SBIWTP at this time.

Discussions with Mexico are ongoing regarding the need for additional water supply in Tijuana. Both the United States and Mexico support the use of reclaimed water. Mexico has expressed a long term interest in reclaiming wastewater; but, at this time, Mexico has formulated no specific plans to transport effluent from the SBIWTP to Tijuana.

D28-2. The 1994 FEIS is not “obsolete,” and the hydraulic capacity of the outfall has not changed since the 1994 FEIS. The Long Term SEIS has been prepared as a supplement to the 1994 FEIS. Where applicable and possible, updated information has been used to evaluate the impacts of the alternatives considered in the SEIS. Much of the information and analyses in the 1994 FSEIS, however, remains valid. The intent of a supplemental EIS is to supplement an EIS, not to replace it. The treatment capacity of the SBIWTP is limited to 25 mgd with peak flow of 50 mgd. The design of the SBOO remains appropriate for the secondary effluent discharges that will occur from the Preferred Alternative. Also see Response to Comment B9-1.

D28-3. The settlement agreement states that the Long Term SEIS will address “any written comments provided to them by Plaintiffs by July 17, 1995 explaining Plaintiffs’ concerns about oceanographic, hydraulic, and environmental factors pertaining to the environmental impacts of Project discharges through the South Bay Ocean Outfall.” In addition, the agreement states that the lead agencies will address in this SEIS “any significant new

information” provided by that same date on that same issue (*San Diego Chapter of the Sierra Club, et. al. V. International Boundary and Water Commission, U.S. Section, et. al.* Case No. 94-920-J (RBB), July 12, 1995). The DSEIS addresses in details the impacts of the discharge of effluent treated to both primary and secondary levels and discharged through the South Bay Ocean Outfall (see Appendix C, Effluent Discharge and Dispersion through the South Bay Ocean Outfall, and Chapter 3 of the DSEIS). Appendix C contains additional ocean modeling that included the effects by the “gyre” on the ocean discharges. The monitoring data of the SBIWTP influent and advanced primary effluent indicate that the concentrations of Ocean Plan Table B compounds are close to the concentrations predicted in Appendix C. The level of impacts to environmental and human health is appropriate. Furthermore, no written comments or new information was submitted by the Plaintiffs or others to the lead agencies on the oceanographic, hydraulic, and environmental factors pertaining to the environmental impacts of project discharges through the South Bay Ocean Outfall.

D28-4. The lead agencies, the USIBWC and EPA, have not selected the advanced primary alternative. The Preferred Alternative is the CMA Ponds at the Hofer Site Alternative (see Section 1.3 of the FSEIS), and a waiver process will not be required.

D29. Mr. Beeman

D29-1. The commentor’s concerns about the need to get the job done are acknowledged. Also see Response to Comment C4-1 from the same author.

D30. Mr. Knox

D30-1. In reference to environmental justice, see Response to Comment A15-10 and D27-1. Executive Order 12989, *Federal Actions to Address Environmental Justice Populations and Low-Income Populations* (February 11, 1994) is discussed in Sections 2.6 and 3.6 of the DSEIS.

D31. Ms. Saldaña

D31-1. The comment is acknowledged regarding the need to consider in the FSEIS the SBIWTP monitoring data that have become available since the DSEIS was released. The monitoring data are now available and included in Chapter 3 of the FSEIS. It is not necessary to compare the SBIWTP wastewater quality data to the Point Loma data to identify the wastewater characteristics (see Response to Comment Letter B-8). The wastewater quality is compared to the applicable regulatory standards to determine compliance. This analysis is summarized in the DSEIS in Chapter 3, and the regulatory standards are discussed in Chapter 5. As stated in General Response 2 of the FSEIS, a pretreatment program in Tijuana is identified as the best approach for reducing toxic compounds in the influent and effluent of the SBIWTP.

D32. Mr. Letter

D32-1. The comment is acknowledged on toxic spikes and their effect on the ocean environment and treatment plant performance. This issue is further discussed in General Response 2 of the FSEIS. In Minute 283, the United States and Mexico agreed to construction of a 25-mgd secondary treatment plant. The comment on postponing secondary treatment for a year until monitoring by the City of San Diego is conducted is addressed in Response to Comment A5-4. In reference to environmental justice, see

Response to Comment A15-10 and D27-1. Executive Order 12989, *Federal Actions to Address Environmental Justice Populations and Low-Income Populations* (February 11, 1994) is discussed in Sections 2.6 and 3.6 of the DSEIS.

D33. Mr. Inzunza

D33-1. Comment acknowledged.

4.7 Responses to Comments Received After the Close of the Comment Period

E1. Hunt, Wayne

E1-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.

E2. Matteo, Carolyn

E2-1. Comment acknowledged. EPA and USIBWC, the lead agencies, have selected the CMA Ponds at the Hofer Site Alternative as the Preferred Alternative, which is discussed in Section 1.3 of the FSEIS.